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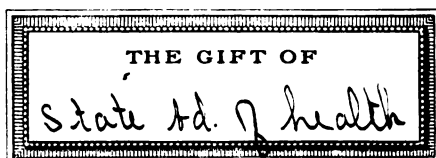
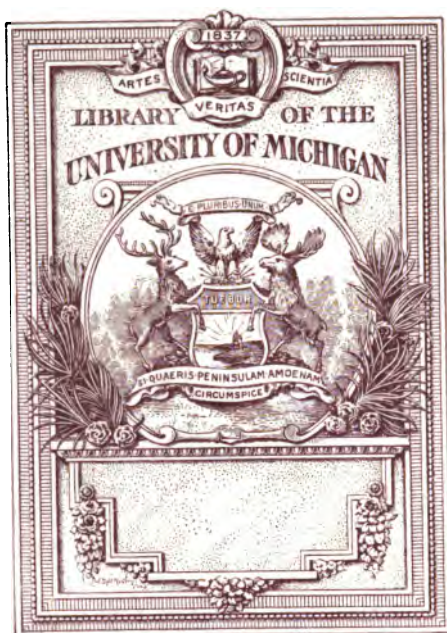
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TENTH ANNUAL REPORT

—OF THE—

State Board of Health

—OF—

INDIANA,
FOR THE
FISCAL YEAR ENDING OCTOBER 31, 1891.

Fiscal Year Ending October 31, 1891.

TO THE GOVERNOR.

INDIANAPOLIS.

WM. B. BURFORD, CONTRACTOR FOR STATE PRINTING AND BINDING.

1892

Resolved, That no papers shall be published in the annual report of this Board except such as are ordered or approved for purposes of such publication, by a majority of the members of the Board; and that any such paper shall be published over the signature of the writer, who is entitled to the credit of its production, as well as responsible for the statements of facts and opinions expressed therein.

MEMBERS OF BOARD.

JOHN N. TAYLOR, M. D., PRESIDENT Crawfordsville, Ind.
C. N. METCALF, M. D., SECRETARY Indianapolis, Ind.
S. R. SEAWRIGHT, M. D Lafayette, Ind.
S. S. BOOTS, M. D. Greenfield, Ind.
T. J. DILLS, M. D Ft. Wayne, Ind.

THE STATE OF INDIANA,
EXECUTIVE DEPARTMENT,
INDIANAPOLIS, January 12, 1891. }

Received by the Governor, examined and referred to the Auditor of State for
crification of the financial statements.

OFFICE OF THE AUDITOR OF STATE,
INDIANAPOLIS, January 13, 1892. }

financial part of the within report has been examined and found correct.

J. O. HENDERSON,
Auditor of State.

Returned by the Auditor of State, with the above certificate, and transmitted
to the Secretary of State for publication, upon the order of the Board of Commis-
sioners of Public Printing and Binding.

WILLIAM B. ROBERTS,
Private Secretary.

Filed in the office of the Secretary of State of the State of Indiana, January
14, 1892.

CLAUDE MATTHEWS,
Secretary of State.

BOARD OF HEALTH REPORT.

HON. IRA J. CHASE,

Governor of Indiana :

In compliance with the provisions of the statute, we have the honor to submit herewith our Tenth Annual Report for the fiscal year ending October 31, 1891.

The Board, according to law, is required to have "general supervision of the health and life of the citizens of the State; to make sanitary investigations and inquiries respecting the cause of disease, and especially of epidemics, the causes of mortality, and the effects of localities, employments, conditions, ingesta, habits and circumstances on the health of the people," and make intelligent and profitable use of such information as may be collected along these lines of sanitary work.

With an earnest desire to comply so far as possible with these requirements, the Board has employed every means at hand to accomplish the objects for which it was established. The chief work of the Board is that of preventing disease by removing the causes that produce it, and thereby prevent sickness, death, suffering and financial loss to the people. In this work our valuable assistants are town, city and county boards of health, and these, with a few exceptions, have done their work faithfully and well, and deserve the highest praise from their constituents.

The work of the Boards is primarily one of education. In order to secure ready compliance with requirements of health boards, it is necessary to enlist the hearty co-operation of the people, and this can only be done by causing them to see the benefit to be derived from obeying the well-known sanitary rules and regulations.

This work has been done, so far as possible, by various circulars of information and instructions, publishing the laws

relating to public health, and circulating such other information as from time to time was available. The press has rendered valuable assistance also, by at all times giving publicity to everything which had for its object the bettering of sanitary conditions.

Epidemics are very rare now; in fact, with our increased knowledge for controlling them, they are hardly possible, and it is a significant fact that from nearly all the counties comes the report that "we have had no epidemics of any kind within the past year."

School houses, jails, poor asylums, and in fact all buildings of a public nature are in much better sanitary condition than they were a few years ago, and much more attention is given to their construction and care than was done before this Board caused inspections of them to be made, and pointed out their defects as well as, in many cases, suggested the remedy.

In order to forward still further the efforts of sanitary science, a sanitary convention was held in this city, to which were invited all town, city and county health officers in the State.

While the attendance was not as large as was desired, yet a goodly number were present, and much interest was manifested by those in attendance.

Subjects pertaining to public health were discussed by our best sanitarians and we believe much good was accomplished. Full account of the proceedings are published in another part of this volume.

The act regulating the practice of medicine approved March 11, 1885, was amended by the last session of the General Assembly so that a licence procured in one county is valid in any part of the State. While this law has done some good service in our State, yet it no doubt is a disappointment in some respects to its friends.

Its intent is to keep out of the practice incompetents and charlatans, but the requirement that the applicant shall exhibit a diploma from some reputable medical college, and make oath to the same does not in all cases produce the desired result. Any college, however disreputable it may be, is reputable in the estimation of the possessor of a diploma from such institution, and he who has a diploma, which, though it may have been bought for a specified sum of money, is ready to make the required oath, and in almost all cases Clerks of Courts are

ready to issue a license when such conditions are complied with. This evil can not be eradicated until some provision is made for a rigid examination of those who come from suspected institutions. In several States such power is vested in the State Board of Health, and has resulted in driving from the State disreputable quacks.

This Board has done all that it can do to prevent the issuing of license to graduates of such colleges, by furnishing to each County Clerk a list of the reputable medical colleges in the United States and Canada.

Considerable interest has been manifested in regard to water pollution. Numerous manufacturing establishments have been located in the past few years along our principal streams, into which is discharged their refuse, and it is contended that the water is rendered so poisonous that it is unfit for use and in many instances has proved very destructive to fish, and is a menace to public health.

Investigations are in progress which we hope will in the near future throw more light upon this subject. It will be proper to say in this connection that this work is very much hindered by lack of funds at the disposal of this Board. The present appropriation of \$5,000, out of which is paid clerk hire, salary of Secretary, expenses of members for traveling expenses, postage, stationery, expressage, telegrams and printing, is entirely inadequate to meet the increasing demands that are constantly claiming attention, and therefore much that ought to be done must remain undone.

This Board has long since become convinced that it is impossible under our present laws to collect complete statistics of marriages, births and deaths, and it is not contended that the tables herewith presented are complete. Indeed not fifty per cent. of the deaths are reported. We have repeatedly urged upon the Legislature the necessity of more stringent laws upon this subject, but as yet nothing has been accomplished. After several years of experience we are confident that the remedy is in all cases of death to require a burial permit, to pay physicians a small fee for making the report and vesting the power of appointing county health officers in this Board, with authority to remove them for neglect of duty.

As the law is now constituted, the Board of County Commissioners is, *ex-officio*, the County Board of Health, and many

of them are not sanitarians, know little about the work that is required of them, and care less.

In many counties they select the county health officer because he is the lowest bidder, and for no other reason, and give matters pertaining to public health no further thought. He draws his salary, which was fixed by himself, quarterly, makes report to this Board of such deaths, births and marriages as are voluntarily sent to him, but makes no effort to get reports from those who fail to do their duty.

The result is that our statistics appear to be of little value and can not be improved until there is a change in the law, yet valuable deductions may be made in regard to certain contagious and infectious diseases.

THE BOARD.

In compliance with the act of February 19, 1891, the Board of Appointment, consisting of the Governor, Auditor and Secretary of State, met February 21, 1891, in the office of the Governor, and appointed the following members:

Samuel R. Seawright, M. D., Lafayette, Ind., and Thomas J. Dills, M. D., Fort Wayne, Ind., whose terms of office will expire March, 1898; John N. Taylor, M. D., Crawfordsville, Ind., and Samuel S. Boots, M. D., Greenfield, Ind., whose terms of office will expire March, 1895.

This Board so appointed met in the State House on February 26, 1891, and organized by electing John N. Taylor, President; Samuel S. Boots, M. D., Vice President, and Charles N. Metcalf, M. D., Indianapolis, Ind., Secretary and Executive officer, whose term of office will expire February 26, 1895.

The Board on June 30, 1891, adopted a series of rules for the government of local Boards of Health, which are presented herewith.

It is very gratifying to report that there has been a decided growth in the interest shown in sanitary work in the State at large and that many improvements of this character have been made within the year. This is made evident by the promptness with which outbreaks of contagious diseases are controlled, by the greater attention given to municipal cleanliness, by the large number of towns seeking improvements in sewerage and water supplies, and by the frequency with which the State Board of Health has been called upon for aid and advice.

This creation of a popular sentiment in favor of better sanitation, in most part due to the united efforts of the State and local Boards of Health, is hailed as a hopeful sign of greater improvements of the public health yet to come.

The demands upon the Board have been more numerous than ever before.

Questions relating to improvements of sewerage and water supplies, disposal of excreta and garbage, the location of school houses, the control of epidemic diseases and the abatement of nuisances, are being constantly referred to the Board. All have received prompt attention, and either by letter or in person, all possible aid has been given.

LEGISLATIVE RECOMMENDATIONS.

Although in former reports attention has been called to such additional legislation as the Board deems important, we again insist upon the following.

1. Requiring burial permits in all cases of death, in order that complete mortuary statistics may be obtained.
2. The payment of a small fee for collecting such statistics.
3. Providing by fees or salaries for the payment of town, city and county secretaries of Boards of Health.
4. Vesting the appointing power and removal of County Health Officers in the State Board of Health.
5. An increase in the number of annual reports.
6. An increase in the annual appropriation from \$5,000 to \$10,000.
7. Providing for a contingent or epidemic fund, under the control of the Governor or other authority, provided for by legislative enactment, to be used in case of emergency.
8. That the Legislature appropriate a sufficient sum of money to enable the Trustees of the Central Hospital for the Insane to successfully dispose of the sewerage of said Institution, as under the present arrangement it is a menace to the health of the people of Mt. Jackson.

FINANCIAL EXHIBIT.

The following is a statement of the receipts and expenditures for the fiscal year, commencing November 1, 1890, and ending October 31, 1891 :

Out of the annual appropriation of \$5,000 to carry on the work of this department, the members have been paid all actual expenses incurred by attending regular and special meetings of the Board, as well as expenses caused in making sanitary inspections under the control of the State government. Reports of inspections made by members of the Board will be found in another part of this report. From our fund we pay the current expenses of the office, the Secretary and clerks' salaries, printing bills, including all publications of the Board, except the annual report.

The Board supplies all the town, city and county Health Boards with physician's blanks for the return of births, deaths, contagious and infectious diseases; County Clerks for the return of marriages, and furnishes County Boards of Health with blanks to make regular quarterly reports, as well as blanks for special reports of contagious and infectious diseases; blank transit permits for the transportation of the dead bodies, and blank certificates for undertakers; preventable disease circulars for general distribution among the people; the rules and regulations of the Board for the government of physicians and health officers; programs, and all necessary printing for sanitary conventions held in the State; also printed postal cards on which health officers and physicians in the different parts of the State make weekly reports to this Board of the prevalence of all preventable diseases, and blanks for the sanitary inspection of school houses, poor asylums and jails. After paying all bills contracted during the year, we find that the amount appropriated for this department has been entirely exhausted.

**FINANCIAL STATEMENT OF THE STATE BOARD OF HEALTH FOR THE FISCAL
YEAR ENDING OCTOBER 31, 1891.**

Dec. 1, 1890	John N. Taylor, traveling and hotel expenses	\$6 85	
" 1, "	C. N. Metcalf, salary	100 00	
" 1, "	S. W. Burns, salary	8 00	
" 1, "	P. J. Gorman, salary	50 00	
" 1, "	D. N. Berg, salary	83 33	
" 1, "	Mrs. C. N. Metcalf, salary	50 00	
" 4, "	A. N. Bell, Sanitarian, New York	8 00	
" 4, "	S. S. Boots, traveling and hotel expenses	6 70	
" 4, "	Thomas Hudson, Sanitary News	7 50	
" 4, "	Indianapolis Journal	12 00	
" 4, "	John N. Taylor, traveling and hotel expenses	6 85	
" 4, "	C. N. Metcalf, traveling and office expenses	14 95	
" 24, "	C. N. Metcalf, traveling and hotel expenses attending A. P. Health Association, Charleston, S. C.	152 03	
" 24, "	John N. Taylor, traveling and hotel expenses attend- ing A. P. Health Association, Charleston, S. C.	163 28	
" 24, "	John N. Taylor, traveling and hotel expenses	6 85	
" 24, "	S. S. Boots, traveling and hotel expenses	5 95	
" 24, "	William Wallace, postage	30 00	
			\$712 29
Jan. 2, 1891	P. J. Gorman, salary	50 00	
" 2, "	S. W. Burns, salary	8 00	
" 2, "	Mrs. C. N. Metcalf, salary	50 00	
" 2, "	D. N. Berg, salary	83 33	
" 2, "	C. N. Metcalf, salary	100 00	
" 12, "	J. N. Taylor, traveling and hotel expenses	6 85	
" 21, "	J. N. Taylor, traveling and hotel expenses	6 85	
" 21, "	S. S. Boots, traveling and hotel expenses	5 70	
" 21, "	D. N. Berg, traveling and hotel expenses	19 25	
" 21, "	C. N. Metcalf, traveling and hotel expenses	20 40	
" 21, "	Indianapolis Sentinel	5 55	
" 21, "	New York Sanitarian	4 00	
Jan. 21, 1891	Remington type-writer	1 00	
" 31, "	C. N. Metcalf, salary	100 00	
" 31, "	D. N. Berg, salary	83 33	
" 31, "	Mrs. C. N. Metcalf, salary	50 00	
" 31, "	S. W. Burns, salary	8 00	
			602 26
Feb. 3, 1891	S. S. Boots, traveling and hotel expenses	5 70	
" 3, "	John N. Taylor, traveling and hotel expenses	13 70	
" 3, "	C. N. Metcalf, office expenses	2 75	
" 12, "	J. N. Taylor, traveling and hotel expenses	6 85	
" 16, "	S. S. Boots, traveling and hotel expenses	5 70	
" 26, "	S. R. Seawright, attorney and court fees in case Moul- der v. Seawright	132 15	
" 26, "	C. N. Metcalf, traveling and office expenses	11 75	
" 26, "	John N. Taylor, traveling and hotel expenses	14 20	
" 26, "	S. R. Seawright, traveling and hotel expenses	16 50	
" 26, "	S. S. Boots, traveling and hotel expenses	11 90	
" 28, "	S. W. Burns, salary	8 00	
" 28, "	C. N. Metcalf, salary	100 00	
" 28, "	D. N. Berg, salary	83 33	
" 28, "	Mrs. C. N. Metcalf, salary	50 00	
			462 53
April 1, 1891	C. N. Metcalf, traveling and hotel expenses	11 25	
" 1, "	D. N. Berg, traveling and hotel expenses	5 00	
" 1, "	C. N. Metcalf, salary	100 00	
" 1, "	S. W. Burns, salary	8 00	
" 1, "	Mrs. C. N. Metcalf, salary	50 00	
" 1, "	D. N. Berg, salary	83 33	
" 15, "	J. N. Taylor, traveling and hotel expenses	6 85	
" 15, "	Indianapolis Postmaster, postage	50 00	
" 27, "	Joe A. Downey, postal guide	1 50	
" 27, "	C. N. Metcalf, office and traveling expenses	12 40	
" 27, "	S. S. Boots, traveling and hotel expenses	5 70	
" 27, "	T. J. Dille, traveling and hotel expenses	60 00	
" 27, "	J. N. Taylor, traveling and hotel expenses	6 85	
" 27, "	S. R. Seawright, traveling and hotel expenses	39 00	
" 27, "	Geo. W. Sloan, vaccine virus and chemicals	4 80	
" 27, "	S. R. Seawright, court expenses case Moulder v. Sea- wright	29 00	
" 30, "	Joe Platt, livery hire	7 00	
" 30, "	Mrs. C. N. Metcalf, salary	50 00	
" 30, "	C. N. Metcalf, salary	100 00	
" 30, "	S. W. Burns, salary	8 00	
" 30, "	D. N. Berg, salary	83 33	
			722

FINANCIAL STATEMENT—Continued.

May 4, 1891	John N. Taylor, traveling and hotel expenses	\$6 85	
" 13, "	John N. Taylor, traveling and hotel expenses	6 85	
" 13, "	S. S. Boots, traveling and hotel expenses	5 70	
" 14, "	S. R. Seawright, traveling and hotel expenses	8 00	
" 14, "	John N. Taylor, traveling and hotel expenses	6 85	
" 14, "	S. S. Boots, traveling and hotel expenses	60 70	
" 20, "	John N. Taylor, traveling and hotel expenses	6 85	
" 28, "	John N. Taylor, traveling and hotel expenses	6 85	
			\$108 65
June 1, 1891	Estella Jackson, salary	50 00	
" 1, "	Mrs. C. N. Metcalf, salary	50 00	
" 1, "	D. N. Berg, salary	83 33	
" 1, "	S. W. Burns, salary	8 00	
" 1, "	C. N. Metcalf, salary	100 00	
" 3, "	H. T. Conde & Co., type-writer and desk	110 00	
" 11, "	T. J. Dills, traveling and hotel expenses	20 00	
" 11, "	S. S. Boots, traveling and hotel expenses	5 70	
" 11, "	S. R. Seawright, traveling and hotel expenses	8 00	
" 11, "	J. N. Taylor, traveling and hotel expenses	6 85	
" 11, "	C. N. Metcalf, traveling and hotel expenses	100 00	
" 11, "	Wyckoff, Seaman & Benedict, ribbons and erasers	2 30	
" 11, "	F. A. Greene, Indianapolis News	8 20	
" 11, "	Bowen-Merrell Co., one mimeograph	20 00	
" 30, "	S. R. Seawright, traveling and hotel expenses	16 00	
" 30, "	J. N. Taylor, traveling and hotel expenses	6 85	
" 30, "	S. S. Boots, traveling and hotel expenses	11 40	
" 30, "	S. W. Burns, salary	8 00	
" 30, "	Mrs. C. N. Metcalf, salary	50 00	
" 30, "	Estella Jackson, salary	50 00	
" 30, "	D. N. Berg, salary	83 33	
" 30, "	W. B. Burford, printing and stationery	99 43	
" 30, "	J. Stewart, livery hire	3 50	
" 30, "	C. N. Metcalf, salary	100 00	
" 30, "	C. N. Metcalf, traveling and hotel expenses	3 50	
			1,004 39
July 17, 1891	John N. Taylor, traveling and hotel expenses inspect-		
" 31, "	ing Northern Prison	\$17 95	
" 31, "	Mrs. C. N. Metcalf, salary	50 00	
" 31, "	Mrs. S. W. Burns, salary	8 00	
" 31, "	D. N. Berg, salary	83 33	
" 31, "	Estella Jackson, salary	50 00	
" 31, "	C. N. Metcalf, salary	100 00	
" 31, "	C. N. Metcalf, traveling and hotel expenses inspect-		
" 31, "	ing Northern Prison	20 55	
			329 83
Sept. 1, 1891	S. W. Burns, salary	\$8 00	
" 1, "	Estella Jackson, salary	50 00	
" 1, "	Mrs. C. N. Metcalf, salary	50 00	
" 1, "	D. N. Berg, salary	83 33	
" 1, "	C. N. Metcalf, salary	100 00	
" 1, "	E. P. Thompson, postage	20 00	
			311 33
Oct. 1, 1891	S. W. Burns, salary	\$8 00	
" 1, "	Estella Jackson, salary	50 00	
" 1, "	Mrs. C. N. Metcalf, salary	50 00	
" 1, "	D. N. Berg, salary	83 33	
" 1, "	C. N. Metcalf, salary	100 00	
" 15, "	C. N. Metcalf, traveling and hotel expenses inspecting		
" 15, "	Lake Manitou	13 00	
" 15, "	John N. Taylor, traveling and hotel expenses	6 85	
			311 18
Oct. 29, 1891	C. N. Metcalf, traveling, hotel and office expenses	\$10 10	
" 29, "	S. S. Boots, traveling and hotel expenses	24 65	
" 29, "	F. A. Davis, text-book on hygiene, by Robe	1 50	
" 29, "	D. N. Berg, telegrams and expressage	1 50	
" 29, "	E. P. Thompson, postage	58 71	
" 29, "	J. N. Taylor, traveling and hotel expenses	13 70	
" 29, "	S. R. Seawright, traveling and hotel expenses	34 00	
" 31, "	C. N. Metcalf, salary for October	100 00	
" 31, "	S. W. Burns, salary for October	8 00	
" 31, "	Mallie Metcalf, salary for October	50 00	
" 31, "	Estella Jackson, salary for October	50 00	
" 31, "	D. N. Berg, salary for October	83 37	
			435 53
	By appropriation	\$5,000 00	
	Expenditures		5,000 00

LIBRARY.

The Library embraces a collection of works by recognized authorities on diseases of domestic animals, bacteria, cholera, drainage, ventilation, heating, food, hygiene, preventive medicine, sanitary science, sewers and sewage, small-pox, suicide, typhoid fever, water, zymotic diseases, and miscellaneous works. Health officers, physicians or other responsible parties desiring to pursue the study of sanitary subjects and matters relating to public health, or wish to investigate subjects of interest to this department, or to use them in discussions before societies or conventions interested in the advancement of sanitary science, can obtain the loan of any of these works by complying with the following terms:

1. Application must be made in writing. Said application must be endorsed by the health officer nearest the party making the application.

2. No more than one book shall be loaned to the same person at the same time.

3. The term for which a book may be loaned shall not exceed three weeks, but at the end of that time a renewal for two weeks more may be granted on application.

4. When a book is loaned the Secretary shall enter upon record the name of the borrower, the title of the book, date of loan, etc.

The following is a complete catalogue of books belonging to the Library:

AMERICAN HEALTH PRIMERS, TITLED AS FOLLOWS:

Brain Work and Overwork	Wood.
Eyesight, and How to Care for It.	Marlan.
Hearing, and How to Keep It	Keen.
Long Life, and How to Reach It	Richardson.
Our Homes	Hartshorn.
Sea Air and Sea Bathing	Packard.
School and Industrial Hygiene.	Lincoln.
Summer and Its Diseases	Wilson.
The Mouth and the Teeth.	White.
The Skin in Health and Disease	Bulkley.
The Throat and the Voice.	Cohen.
Winter and Its Dangers.	Osgood.

APPLETON'S HEALTH PRIMERS.

Baths and Bathing.
 Exercise and Training.
 Personal Appearances.
 Premature Death, Its Promotion or Prevention.
 The House and Its Surroundings.
 The Heart and Its Functions.
 The Nervous System.
 The Skin and Its Troubles.

ANIMALS AND THEIR DISEASES.

Actinomycosis Fleming.
 Animal Diseases and Their Relation to Public Health . Billings.
 Animal Pleagues, 2 vols Fleming.
 Animal Parasites of Sheep Curtice.
 Contagious Diseases of Cattle Fleming.
 Contagious Diseases of Domestic Animals U. S. Bureau.
 Diseases of Live Stock Teller.
 Human and Animal Variola Fleming.
 Lung Plague Among Cattle Law.
 Veterinary Science Williams.

BACTERIA.

Bacteria Maguire.
 Bacteria and the Germ Theory Gradle.

DRAINAGE.

Agricultural Drainage Denton.
 Drainage Gerhardt.
 Drainage for Health Wilson.
 Farm Drainage French.
 House Drainage and Water Sewers. Bayless.
 Land Drainage Reeves.
 Our Homes Murphy.

FOOD.

Food and Poisons Blythe.
 Health in Diet. English Conference.
 Bazar Book of Health Harper.
 Bible Hygiene By a Physician.
 Hand-Book of Hygiene. Wilson.
 Health in Relation to Civic Life. English Conference.
 How to Live Wilson.
 Hygiene and Public Health, 2 vols. Buck.
 Health Corfield.
 Maintenance of Health Forthergill.

PREVENTIVE MEDICINE.

Eyesight, Good and Bad	Carter.
Dangers to Health	Teale.
Preventive Medicine	Richardson.
Seven Sources of Health	Strange.

SANITARY SCIENCE.

American Sanitary Engineering	Philbrick.
Dwelling Houses	Corfield.
Hand-Book of Sanitary Science	Marsh.
Health in Dwelling	English Conference.
House Sanitation	Denton.
Mechanics of Ventilation	Rafter.
Sanitary Care and Treatment of Children.	Anderson and Jacobi.
Sanitary Construction of Dwellings	Corfield.
Sanitary Condition of Houses	Waring.
Sanitary Engineering	Latham.
Sanitary Plumbing	Heyler.
Sanitarian, The	Bell.
Steam Heating	Waldron.
Ventilation and Warming	Drysdale and Hayward.
Ventilation	Leeds.
Ventilation	Billings.
Ventilation of Buildings	Butler.

SEWERS AND SEWAGE.

Disposal of Sewage	Robinson.
Sewers and Drains	Adams.
Sewers and Gases	Devarona.
Sewage Poisoning	Blake.
Sewage and Its Utilization	Corfield.

SEPULTURE.

Sepulture	Wicks.
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SUICIDE.

Suicide	Morcelli.
Suicide	O'Dea.

VACCINATION.

Essentials of Vaccination	Hardway.
Vaccination	Edwards.
Vaccination	Seaton.

WATER.

Potable Water	Folkhard.
Examination of Water	Fox.
Water	Parry.
Water Analysis	McDonald.
Water and Water Supply	Nichols.

ZYMOTIC DISEASES.

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THE LAW ESTABLISHING A STATE BOARD OF HEALTH, PASSED FEBRUARY 19, 1891.

SECTION 1. *Be it enacted by the General Assembly of the State of Indiana*, That a Board is hereby created and established which shall be known under the name of the State Board of Health. It shall consist of five members as follows: Four members who shall be appointed by a Board of Appointment consisting of the Governor, Secretary of State and Auditor of State, a majority of which shall constitute a quorum, who shall meet in the office of the Governor within ten days after the passage of this act, and shall proceed to appoint two members of said Board of Health, whose term of office shall expire on the first day of March, 1893, and two whose term of office shall expire on the first day of March, 1895. Thereafter two members shall be appointed biennially, who shall hold their offices for four years. Any vacancy in said Board of Health shall be filled by said State officers. Said Board of Health, when so appointed, shall elect a secretary, who shall be a physician, and shall be the health officer of the State, and shall hold his office for four years, who, by virtue of his election, shall be a member of said State Board of Health.

SEC. 2. Before entering upon the discharge of their duties the members of said Board of Health shall each take and subscribe an oath of office before the Clerk of the Supreme Court, or any other officer authorized to administer an oath, that they will faithfully and honestly discharge the duties of such offices, which oath of office shall be filed in the office of the Secretary of State.

SEC. 3. The Secretary of the Board shall keep his office at Indianapolis, and shall perform such duties as are prescribed by this act, or may be required by the Board. He shall keep the custody of all papers, books, documents, and other property belonging to the Board; he shall, so far as practicable, communicate with other State Boards of Health, and with the County Boards of Health within this State; he shall keep and file all reports received from such Boards, and all correspondence of the office appertaining to the business of the Board. He shall prepare blank forms of returns and such instructions

as may be necessary, and forward them to the Secretaries of the several County Boards of Health throughout the State. He shall collect information concerning vital statistics, knowledge respecting diseases, and all useful information on the subject of hygiene, and through an annual report and otherwise, as the Board may direct, shall disseminate such information among the people.

Sec. 4. The Secretary shall receive an annual salary not to exceed twelve hundred dollars, which shall be fixed by the members of the Board. The Board shall quarterly certify the amount due him, and on presentation of said certificate, the Auditor of State shall draw his warrant on the State Treasurer for such amount. The members of said Board shall receive no other compensation for their services but their traveling and other necessary expenses while employed on the business of the Board. Such expenses shall be paid in like manner as the salary of the Secretary.

Sec. 5. The Board shall meet at least once in each quarter, in the city of Indianapolis, and as often as they may deem necessary, and at such other times and places as they may deem expedient during epidemics.

A majority shall constitute a quorum for the transaction of business. They shall choose one of their number for President, who shall serve two years, unless his term of office as a member of the Board shall sooner expire. They may adopt rules and by-laws subject to the provisions of this act, and in harmony with other statutes in relation to the public health, to prevent outbreaks and the spread of contagious and infectious diseases.

Sec. 6. The State Board of Health shall have the general supervision of the health and life of the citizens of the State; they shall study the vital statistics, and endeavor to make intelligent and profitable use of the collected records of death and sickness among the people; they shall make sanitary investigations and inquiries respecting the causes of disease, and especially of epidemics; the causes of mortality, and the effects of localities, employments, conditions, ingesta, habits and circumstances on the health of the people; they shall have power to regulate and prescribe the location of plumbing, drainage, water supply, disposal of excreta, heating and ventilation of any public building or institution, and to inspect the same;

they shall, annually, on or before the first day of December, make a report to the Governor of their doings and investigations for the year ending October 31 next preceding, with such suggestions with regard to legislation as they may deem important in reference to the public health.

SEC. 7. The State Board of Health shall have supervision of the system of registration of births, deaths and marriages, as herein provided, and they shall make up such forms from time to time as they may deem necessary for the thorough registration and report of vital and sanitary statistics throughout the State. The Secretary shall be superintendent of all such registration, and with the consent of a majority of all members of said Board, shall have the power to appoint and fix the compensation of any clerical force that may within his judgment be or become necessary for the making and keeping the records of said Board of Health.

SEC. 8. The Trustees of each town, the Mayor and Common Council of each incorporated city, except where a regularly constituted Board of Health, by ordinance of such city, exists, or may hereafter be created, and the Board of Commissioners of each county shall constitute a Board of Health, *ex-officio* for each town, city and county respectively of the State, whose duty it shall be to protect the public health by the removal of causes of disease when known, and in all cases to take prompt action to arrest the spread of contagious diseases, to abate and remove nuisances dangerous to the public health, and perform such other duties as may from time to time be required of them by the State Board of Health pertaining to the health of the people. They shall, annually, at their first meeting in December, elect a Secretary, who shall be the executive officer of the Board, who shall serve as such health officer for one year from the first of January next ensuing his election. He shall receive such compensation from the town, city or county treasury respectively as the Board electing him may determine. The records of the County Board of Health shall be kept at the county seat.

SEC. 9. The Board of Health of each county shall be subordinate to the State Board of Health, and it shall be the duty of the Secretaries of such County Boards, at least once in each quarter, to report such facts and statistics as may be required under instructions from and in accordance with blanks fur-

nished by said Board; and it shall be the duties of the secretaries of Town and City Boards of Health to make like reports to the secretaries of the County Boards in which such towns and cities are situated, to which County Boards of Health such Town or City Boards are subordinate. It shall be the duty of County Boards of Health to promulgate and enforce all rules and regulations of the State Board of Health in their respective counties which may be issued from time to time for the preservation of the public health and for the prevention of epidemic and contagious diseases.

And the Secretary of any Board of Health who shall fail or refuse to promulgate and enforce such rules and regulations, and any person or persons, or the officers of any corporation, who shall fail or refuse to obey such rules and regulations shall be deemed guilty of a misdemeanor, and upon conviction thereof shall be fined in any sum not exceeding one hundred dollars, and upon a second conviction the Court or jury trying the cause may add imprisonment in the county jail for any period not exceeding ninety days.

SEC. 10. It shall be the duty of all physicians and accouchers in this State to report to the Secretary of the Board of Health of the town, city or county in which they may occur all births and deaths which may occur under their supervision, with a certificate of the cause of death, and such correlative facts as may be required on the blank forms furnished as provided in this act. When any birth or death may occur, with no physician or accoucher in attendance, then such births or deaths shall be reported by the householder where, or under whose observations, such birth or death may occur, with the cause of death, if such be known. Any death coming under the jurisdiction or supervision of any Coroner shall be by him reported to the Secretary of the Board of Health of the town, city or county in which such death may occur, and such death so reported shall not be required to be reported by any other person.

SEC. 11. It shall be the duty of the Clerk of the Circuit Court of each county to report to the Secretary of the County Board of Health, on or before the fifth day of each month, the number of marriages for the preceding month, with such facts relating thereto as may be provided for by a blank furnished to such Clerk by the Secretary of the County Board of Health.

Sec. 12. It shall be the duty of all Boards of Health to keep a complete record, according to the forms prescribed by the State Board, of all marriages, births and deaths reported to them under the provisions of this act, and such record shall be open to the inspection of any citizen, without fee. It shall be the duty of the State Board of Health to prescribe the forms for the record of marriages, births and deaths to be used in the office of the Secretary of the County Board, and prescribe such forms, and the Secretary of the State Board shall, upon requisition of the health officer of each county, furnish him, and through him the Secretary of each local Board in such county, such blanks as may be required for the gathering and reporting of vital and sanitary statistics according to the provisions of this act.

Sec. 13. The sum of five thousand dollars per annum, or so much thereof as may be necessary, is hereby appropriated to pay the salary of the Secretary and other necessary expenses of the State Board of Health, according to the provisions of this act; and the expenses of the State Board of Health shall in no event exceed the amount herein appropriated.

Sec. 14. Any person or persons, or the officers of any corporation, who shall violate any of the provisions of this act, shall be deemed guilty of a misdemeanor, and upon conviction thereof shall be fined in any sum not exceeding one hundred dollars.

Sec. 15. All laws or parts of laws in conflict with this act are hereby repealed.

Sec. 16. Whereas, an emergency exists for the immediate taking effect of this act, therefore the same shall be in force from and after its passage.

LAWS RELATING TO PUBLIC HEALTH.

REVISED STATUTES, 1881.

Sec. 289. Whatever is injurious to health, or indecent, or offensive to the senses, or an obstruction to the free use of property, so as to essentially interfere with the comfortable enjoyment of life or property, is a nuisance; and the subject of an action.

SEC. 1920. Whoever poisons any spring, well, cistern or reservoir of water, with intent to kill or injure any human being, upon conviction thereof shall be imprisoned in the State prison not more than fourteen years nor less than three years.

SEC. 2065. Every person who shall erect, or continue and maintain any public nuisance, to the injury of any part of the citizens of this State, shall be fined not exceeding one hundred dollars.

SEC. 2066. Whoever erects, continues, uses or maintains any building, structure or place for the exercise of any trade, employment or business, or for the keeping and feeding of any animal, which, by occasioning noxious exhalations or noisome or offensive smells, becomes injurious to the health, comfort or property of individuals or the public, or cause or suffer any offal, filth or noisome substance to be collected or to remain in any place, to the danger or prejudice of others or the public, or obstructs or impedes, without legal authority, the passage of any navigable river, harbor or collection of waters, or unlawfully diverts any stream of water from its natural course or state to the injury of others, or obstructs or encumbers by fences, building, structure, or otherwise, any public grounds, or erects, continues or maintains any obstruction to the full use of property so as to injure the property of another, or essentially to interfere with the comfortable enjoyment of life, shall be fined not more than five hundred dollars nor less than ten dollars: *Provided*, That nothing in this section shall prevent the Board of Trustees of towns and the Common Councils of cities from enacting and enforcing such ordinances within their respective corporate limits as they may deem necessary to protect public health and comfort.

SEC. 2067. Whoever builds, erects, continues or keeps up any dam or other obstruction to any stream of water and thereby produces stagnant water, which is manifestly injurious to the public health and safety, shall be fined not more than five hundred dollars nor less than ten dollars.

SEC. 2068. Whoever puts the carcass of any dead animal, or the offal from any slaughter-house or butcher's establishment, packing-house or fish-house, or any spoiled meats or spoiled fish, or any putrid animal subsistence, or the contents of any privy vault, upon or into any river, pond, canal, lake, public ground, market place, common field, meadow, lot, road,

street or alley, and whoever, being the owner or occupant of any such place, knowingly permits any such thing to remain therein to the annoyance and injury of any of the citizens of this State, or neglects or refuses to remove or abate the nuisance occasioned thereby within twenty-four hours after knowledge of the existence of such nuisance upon any of the above described premises owned or occupied by him, or after notice thereof, in writing, from any health officer of the city or the Trustee of the township in which such nuisance exists, shall be fined not more than one hundred dollars nor less than one dollar.

SEC. 2069. Whoever knowingly sells, or has in his possession with intent to sell, or exposes for sale, any kind of diseased or corrupted or unwholesome provisions, whether for meat or drink; or whoever knowingly sells, or exposes for sale, any article or substance intended to be eaten or drunk, and shall, by label or in any other way, represent it to be other than what it is; or kills, for the purpose of sale, any calf less than four weeks old; or sells or has in his possession with intent to sell, the meat of any calf which he knows to have been killed when less than four weeks old, shall be fined not more than five hundred dollars, nor less than ten dollars, to which may be added imprisonment in the county jail not more than six months nor less than ten days.

SEC. 2070. Whoever kills for the purpose of sale any sick, diseased or injured animal, or who sells or has in his possession with intent to sell, the meat of any such sick, diseased or injured animal, shall be fined not more than five hundred dollars nor less than fifty dollars, to which may be added imprisonment in the county jail not more than six months.

SEC. 2071. Whoever shall knowingly sell to any person or persons, or sells, delivers, or brings to be manufactured to any cheese or butter manufactory in this State, any milk diluted with water, or in any way adulterated, or milk from which any cream has been taken, or milk commonly known as "skimmed milk," or shall keep back any part of the milk known as "stripping," with intent to defraud, or shall knowingly sell milk, the product of a sick or diseased or injured animal or animals; or any milk produced from any cow fed upon the refuse of any distillery or brewery, or upon any substance deleterious to the quality of the milk, or shall knowingly use any

poisonous or any deleterious material in the manufacture of any cheese or butter, or shall knowingly sell or offer to sell any cheese or butter in the manufacture of which any poisonous or deleterious substance has been used, shall be fined not more than five hundred dollars nor less than fifty dollars.

SEC. 2075. Whoever maliciously or mischievously puts any dead animal, carcass or part thereof, or any other putrid, nauseous, noisome or offensive substance, upon any highway, or in any manner befouls any well, cistern, spring, brook, canal or stream of running water, or any reservoir of water works, of which any use is, or may be made for domestic purposes, shall be fined not more than one hundred dollars, nor less than five dollars, to which may be added imprisonment in the county jail not more than sixty days nor less than ten days.

SEC. 2102. Whoever knowingly permits any horse, mare or gelding affected with glanders to be taken from his or her premises, or to run at large, shall be fined not more than one hundred dollars nor less than five dollars.

SEC. 2103. Any person being the owner of sheep, or having the same in charge, who shall turn out, or suffer any sheep having any contagious disease, knowing the same to be diseased, to run at large upon any common, highway or unenclosed ground, or who shall sell any diseased sheep, knowing the same to be diseased, without fully disclosing the fact to the purchaser, shall be deemed guilty of a misdemeanor and be punished by a fine of not less than two nor more than twenty-five dollars for each diseased sheep, to be recovered as other penalties for like offenses.

SEC. 2151. Whoever, being the owner, lessee, superintendent or manager of any hotel or place of entertainment for transient guests or boarders, in any city of five thousand inhabitants or upwards, which is more than two stories in height, conducts, operates or carries on such hotel or place of entertainment, without providing sufficient and suitable fire escapes or ladders at convenient places in the stories of such building above the second, for the speedy escape of such guests or boarders in case of fire; and without causing written or printed notices of the location and manner of using such fire escapes or ladders to be posted in a conspicuous place in the room of each guest or boarder, shall be fined not more than fifty dollars nor less than five dollars for each day of such failure.

SEC. 2155. Whoever being the owner, manager, lessee, trustee or person having the charge of any theatre, opera house, museum, college, seminary, church, school house, or other public buildings, refuses or neglects to cause all the doors constructed for the purpose of ingress or egress, whether inner or outer doors, to be so hung that the same shall swing outwardly, shall be fined in any sum not exceeding one thousand dollars nor less than ten dollars, to which may be added imprisonment in the county jail for any period not exceeding six months.

SEC. 2652. In all cases where any hog, shoat, or other domestic animal, shall die of the disease commonly called "hog cholera," or any other disease, it shall be the duty of the owner or owners of such hog, shoat, or other domestic animal, or the person or persons having the care and custody of the same, having knowledge of the fact, or upon receiving notice thereof, to cause the carcass of said hog, shoat or other domestic animal, without unnecessary delay, to be burned, or safely or securely buried.

SEC. 2653. If any owner or owners of such hog, shoat, or other domestic animal, so dying with disease, or any person or persons having the care and custody thereof, having knowledge of the fact, or upon receiving notice thereof, shall fail, neglect or refuse to comply with the provisions of the preceding section, he, she or they, so offending, shall be guilty of a misdemeanor, and upon conviction thereof, before any tribunal having cognizance of the offense, shall be fined in any sum not less than ten dollars nor more than fifty dollars.

OLEOMARGARINE.

Approved March 3, 1883.

SECTION 1. *Be it enacted by the General Assembly of the State of Indiana,* That whoever sells, or has in his possession with intent to sell, or expose for sale, or whoever keeps on any table at any hotel, or at any public or private boarding house, any butter other than that made from pure milk, without first labeling the same in large letters Oleomargarine, shall be deemed guilty of a misdemeanor, and, on conviction thereof, shall be fined not more than fifty dollars, nor less than ten dollars.

SEC. 2. Whereas, an emergency exists for the immediate taking effect of this act, therefore the same shall be in effect on and after its passage.

POWERS OF BOARDS OF TRUSTEES.

By virtue of an act of the General Assembly, approved April 10, 1885, the Boards of Trustees of incorporated towns have power:

Fourth. To declare what shall constitute a nuisance, and to prevent, abate and remove the same, and to take such other measures for the preservation of the public health as they shall deem necessary.

AN ACT to prohibit the sale of dangerous toys.

Approved March 11, 1885.

SECTION 1. *Be it enacted by the General Assembly of the State of Indiana,* That it shall be unlawful for any firm, company or person within the State of Indiana to manufacture, sell or expose for sale, or give away a prize or reward, any toy pistol, or other device for the purpose of exploding caps or wafers containing fulminates or other explosive compounds, and persons so selling or offering to sell or give away such toy, shall be deemed guilty of a misdemeanor, and upon conviction thereof shall be fined in any sum not less than ten dollars nor more than fifty dollars, or to be imprisoned in the county jail not less than ten nor more than twenty days.

AN ACT to regulate the practice of medicine, surgery and obstetrics.

Approved April 11, 1885.

SECTION 1. *Be it enacted by the General Assembly of the State of Indiana,* That it shall be unlawful for any person to practice medicine, surgery or obstetrics in this State without first having obtained a license so to do, as hereinafter provided:

(SEC. 2.) Any person desiring to practice medicine, surgery or obstetrics in this State, shall procure from the Clerk of the Circuit Court of the county wherein he or she desires to practice, a license so to do, which license shall be issued to such person only when he or she shall have complied with the following conditions, to-wit: When such applicant shall file with such Clerk his or her affidavit, stating that such applicant has regularly graduated in some reputable medical college, and shall exhibit to such Clerk the diploma held by such applicant, or when such applicant shall file with such Clerk his or her

affidavit, and the affidavit of two reputable freeholders, or householders, of the county, stating that he or she has resided and practiced medicine, surgery and obstetrics in this State continuously, for ten years immediately preceding the date of the taking effect of this act, stating particularly the locality or localities in which he or she practiced during said period, and the length of time in each locality, or when such applicant shall file with such Clerk his or her affidavit, and the affidavit of two reputable freeholders or householders of the county, stating that he or she has resided and practiced medicine, surgery and obstetrics in this State continuously for three years immediately preceding the date of the taking effect of this act, stating particularly the locality or localities in which he or she practiced during said period, and the date and length of time in each locality, and that he or she had, prior to said date, attended one full course of lectures in some reputable medical college. Such applicant shall pay to such Clerk for such license the sum of one dollar and fifty cents, and such Clerk shall record such license, together with the name of the college in which such applicant graduated, and the date of his or her diploma in a book to be kept for such purpose, and which shall be a public record.

SEC. 3. Any Clerk who shall issue a license to practice medicine, surgery or obstetrics to any person who has not complied with the requirements of section 2 of this act, shall be deemed guilty of a misdemeanor, and, upon conviction thereof, shall be fined in any sum not less than twenty-five dollars nor more than one hundred dollars, and such license, or one procured by any false affidavit, shall be deemed and held to be void.

SEC. 4. Any person who shall practice medicine, surgery or obstetrics in this State, without having first procured from the Clerk of the Circuit Court of the county wherein he or she shall so practice, a license, as provided in this act, shall be fined in any sum not less than ten dollars nor more than two hundred dollars: *Provided*, That this act shall not be deemed to prohibit women from practicing obstetrics, and such midwives are hereby expressly exempted from its provisions.

SEC. 5. No cause of action shall lie in favor of any person for services as physician, surgeon or obstetrician, who has not, prior to the rendition of such services, procured a license to

practice as herein provided for, and any person who shall pay any sum of money, or deliver any property for any such services to any person who is not so licensed, may recover the same, or the value thereof in any court of competent jurisdiction in this State.

SEC. 6. The following shall be the form of license under this act; the Clerks of the Circuit Courts shall appropriately fill up the blanks and issue the same under the seal of their respective courts, to-wit:

STATE OF INDIANA, }
COUNTY, } ss :

I,, Clerk of the Circuit Court ofCounty, in said State, do hereby certify that..... has complied with the laws of the State of Indiana relating to the practice of medicine, surgery and obstetrics, and is hereby authorized to practice medicine, surgery and obstetrics in said county.

Witness my hand and seal of said court this day of, 18....

....., Clerk.

AN ACT to amend section two and six of an act approved April 11, 1885.

Approved March 9, 1891.

SECTION 1. *Be it enacted by the General Assembly of the State of Indiana*, That section two (2) of an act approved April 11, 1885, be so amended as to read as follows:

Section 2. Any person desiring to practice medicine, surgery and obstetrics in this State shall procure from the Clerk of the Circuit Court of the county wherein he or she resides, or wherein they desire to locate to practice, a license which authorizes him or her to practice anywhere within the State, which license shall be issued to such person only when he or she shall have complied with the following conditions, to-wit: When such applicant shall file with such Clerk his or her affidavit stating that such applicant has regularly graduated in some reputable medical college, and shall exhibit to such Clerk the diploma held by such applicant, or when such applicant shall file with such Clerk his or her affidavit and the affidavit

of two reputable freeholders or householders of the county, stating that he or she has resided and practiced medicine, surgery and obstetrics in this State continuously for ten years immediately preceding the date of the taking effect of this act, stating particularly the locality or localities in which he or she practiced during said period, and the date and length of time in each locality, or when such applicant shall file with such Clerk his or her affidavit, and the affidavit of two reputable freeholders or householders of the county, stating that he or she has resided and practiced medicine, surgery and obstetrics in this State continuously for three years immediately preceding the taking effect of this act, stating particularly the localities in which he or she practiced during said period, and the date and length of time in each locality, and that he or she, prior to said date, attended one full course of lectures in some reputable medical college. Such applicant shall pay to such Clerk for such license the sum of one dollar and fifty cents, and such Clerk shall record such license, together with the name of the college in which such applicant graduated, and the date of his or her diploma, in a book to be kept for such purpose, and which shall be a public record.

SEC. 2. That section six of said act, approved April 11, 1885, shall be amended to read as follows:

Section 6. The following shall be the form of license under this act. The Clerk of the Circuit Court shall appropriately fill up the blanks, and issue the same under the seal of their respective courts, to-wit:

I,, Clerk of the Circuit Court of County, in said State, do hereby certify that has complied with the laws of the State of Indiana relating to the practice of medicine, surgery and obstetrics, and is hereby authorized to practice medicine, surgery and obstetrics in said county and State.

Witness my hand and seal of said Court, this day of 18....

....., Clerk.

AN ACT to provide for a Live Stock Sanitary Commission and a State Veterinarian, etc.

[Approved March 9, 1889.]

EXTRACT.

SECTION 6. It shall be the duty of any person who discovers, or has reason to believe, that any domestic animal belonging to him or her in his care, or that may come under his observation belonging to other parties, is affected with any disease supposed to be dangerous, contagious or infectious, to immediately report such fact to the Secretary of the Board of Health of the county where such animal is situated, whose duty it shall be to report the fact to said Sanitary Commission.

SEC. 7. It shall be the duty of said Secretary of such County Board of Health to keep a record of all cases so reported to him, including the age, sex and distinguishing characteristics of such animals, and it shall be the duty of such Secretary of said Board of Health to immediately examine, either in person or by a qualified person appointed by him for that purpose, all animals so reported to be diseased, and, if he find that said animal or animals are affected with a contagious disease, to immediately report the same to said Commission or some member thereof, and the said Secretary shall promptly take such measures as he shall deem most expedient to prevent the spread of the disease until said Commission shall be able to relieve him from the charge and care of such animal or animals. All the necessary expenses necessarily incurred by said Secretary of such Board of Health and his agents in carrying out the provisions of this act shall be paid in the same manner as are those of the Commission.

INDIANAPOLIS, June 30, 1891.

To Town, City and County Boards of Health:

Your attention is called to the following rules and regulations adopted by this Board for the preservation of the public health, to prevent the spread of contagious or infectious disease, and for the more thorough collection of vital and sanitary statistics. You are hereby directed to promulgate the same in your

respective districts, and cause them to be enforced. A failure or refusal to promulgate and enforce the same will subject the person or persons so offending to punishment by a fine, and in case of a second offense to fine and imprisonment. (Section 9 of an act establishing a State Board of Health, etc., herewith published.)

By order of the Board.

JOHN N. TAYLOR, M. D., *President.*

C. N. METCALF, M. D., *Secretary.*

RULES FOR THE GOVERNMENT OF LOCAL BOARDS OF HEALTH.

RULE 1. No person affected with any contagious or infectious disease shall be admitted into any public or private school.

RULE 2. No person shall be admitted into any public or private school from any house or building infected with any contagious or infectious disease, or who may recently have been afflicted with small-pox, scarlet fever, cholera, whooping cough, diphtheria, membranous croup, measles or other contagious or infectious diseases, until first presenting a certificate, signed by a reputable physician, that all danger of communicating such disease to others is passed, and said certificate is indorsed by the health officer in whose jurisdiction the person may reside.

RULE 3. Town, City and County Boards of Health shall exercise especial supervision over the location, drainage, water supply, heating, ventilation, plumbing and disposal of excreta of the schools and houses within their respective jurisdictions, and where any hygienic faults are found it shall be the duty, upon complaint, of said health officers to notify immediately the proper authorities and cause the same to be corrected.

RULE 4. Whenever any householder shall know or suspect that any person within his or her family, or who may be temporarily residing with him or her, is sick with small-pox, scarlet fever, diphtheria, cholera or any other disease dangerous to

the public health, he shall immediately give notice to the health officer within whose jurisdiction he may reside.

RULE 5. Whenever any physician shall know or suspect that any person whom he is called to visit has small-pox, scarlet fever, measles, diphtheria, cholera, or any other disease dangerous to the public health, such physician shall give notice immediately, together with the locality and full description of the case, to the local Board of Health within whose jurisdiction the disease may occur.

RULE 6. No parent, guardian or other person having charge or control of any child or children, shall allow or permit any such child or children to go from any house or building infected with small-pox, scarlet fever, diphtheria, measles, whooping cough, cholera or other contagious or infectious diseases, to attend any church or public meeting, or place of amusement, or to travel in any street car, or any public vehicle.

RULE 7. No person shall be permitted to go from any house or building infected with small-pox, scarlet fever, measles, diphtheria, cholera, or other contagious or infectious diseases, to attend any church, public meeting, or place of amusement, or to travel in any street car, or public vehicle, until all danger from contagion by reason of such disease is passed, and a certificate from the local health officer to that effect has been obtained.

RULE 8. The room in which there has been a case of contagious or infectious disease, dangerous to the public health, must be disinfected immediately, and all infected clothing, bedding, carpets, furniture, etc., must be either disinfected or destroyed. All such work to be done under the supervision of the health officer.

RULE 9. No person will be allowed to leave any house, building or premises, infected with small-pox, unless he has heretofore had the disease, and then he must make a complete change of clothing and have a permit and instructions from the local health officer.

RULE 10. In all cases where an exposure to small-pox is threatened, it shall be the duty of the Board of Health, within whose jurisdiction such exposure shall have occurred, or danger of such an epidemic ensuing, to compel a vaccination, or revaccination, of all exposed persons. All vaccinations must be made with non-humanized virus. The only exception to this

rule that is recognized by this Board, is in the event that small-pox is prevalent in epidemic form, and the health officer should certify to the impossibility of obtaining such virus in sufficient quantity, and also as to the purity of the humanized virus to be used in lieu of the bovine virus.

RULE 11. Upon notice being given of cases of small-pox, scarlet fever, diphtheria, measles, or cholera, the health officer shall cause a flag, or card not less than twelve inches square, to be fastened to the front door, or other conspicuous place of each building, where such sickness prevails. The card or flag for small-pox shall be red, and shall be printed thereon, small-pox; for scarlet fever, measles and diphtheria, it shall be yellow, and have scarlet fever, measles or diphtheria printed thereon in large letters; for cholera, a black card or flag with cholera printed in white letters shall be used. (Copies of these rules and regulations, and the necessary cards and flags, will be furnished on application to the proper health officer.)

RULE 12. It is made the duty of every person who may have charge of any one who has died of small-pox to cause the body of any such person to be interred within twelve hours after death. Whenever any person has died from small-pox, scarlet fever, diphtheria or cholera, the body must be placed in a coffin as soon as possible and the coffin securely closed and never again opened. In all cases of death from any of the above named diseases the funeral of any such person must be strictly private.

RULE 13. City and town health officers shall record all returns of births, deaths and contagious diseases, and they shall monthly turn over to the County Health Officer the original birth, death and contagious disease returns.

RULE 14. All town, city and county Boards of Health, shall cause to be made, at least once each year, and report the result of their investigation to this Board, a thorough sanitary survey of their respective jurisdiction, for the purpose of ascertaining the existence of conditions detrimental to the public health, including in such survey stagnant ponds, imperfect drainage, sewerage, cess pools and water closets; the construction, heating, ventilation, plumbing and disposal of excreta of all public buildings, prisons, hospitals, eleemosynary institutions, and such nuisances as might prove dangerous to public health. Whenever any hygienic imperfections are discovered they

shall at once take proper action as prescribed by law to have the same corrected.

RULE 15. All physicians, accoucheurs and midwives in this State are hereby required to report to the Secretary of the Board of Health of the town, city or county in which they may occur, within five days thereafter, all births and deaths which may occur in their practice. Whenever a physician's supply of the necessary blanks on which to make returns of births, deaths and contagious and infectious diseases is exhausted, he shall at once make a requisition for the same on the health officer within whose jurisdiction he may reside, and said health officer is hereby required to immediately supply the demand.

RULE 16. It is hereby ordered that each county health officer in this State, shall, on or before the 30th day of the month following the close of each quarter, make his quarterly returns of all marriages, births, deaths and contagious and infectious diseases reported to him, to the Secretary of this Board, on blanks prescribed and furnished by the State Board of Health.

RULE 17. Whenever any death or birth occurs with no physician, or accoucheur, or midwife in attendance, then such death or birth shall be reported to the town, city or county health officer, by the householder under whose observation such death or birth may occur. Such reports to be made within five days after their occurrence. In all cases of death when a Coroner has held an inquest, and death has not been certified to by a physician, then the said Coroner is required to make such report to the proper authorities within five days after holding the inquest.

RULE 18. All persons authorized in this State to solemnize marriages are hereby required to make reports of all marriages solemnized by them to the Clerk of the Circuit Court by whom the marriage license is issued, on blanks furnished by such Clerk, within five days after the marriage is solemnized.

RULE 19. It shall be the duty of the county health officers to see that at all times physicians are supplied with the necessary blanks for reports of births, deaths and contagious diseases. Such blanks will be furnished by this Board on the application of the county health officer.

RULE 20. It is hereby ordered that no cemetery hereafter be located within less than one mile of the corporate limits of any town or city in this State.

RULE 21. Secretaries of County Boards of Health are hereby directed, and it is made their duty, to cause all physicians in their respective counties to report to them all births, deaths and contagious or infectious diseases occurring in their practice, on such blanks as are furnished by the State Board of Health. The Secretary of any County Board of Health failing or refusing to comply with this rule shall be subject to the penalties provided in section 9 of the act establishing a State Board of Health, passed February 19, 1891.

RULES FOR THE GOVERNMENT OF STATION AGENTS AND BAGGAGEMEN IN RECEIVING AND TRANSPORTING DEAD BODIES.

RULE 1. The transportation of bodies or persons dead of small-pox, Asiatic cholera, leprosy, typhus fever, diphtheria or yellow fever is absolutely forbidden.

RULE 2. The bodies of those who have died of anthrax, scarlet fever, puerperal fever, erysipelas, measles, and other contagious, infectious or communicable diseases, must be wrapped in a sheet thoroughly saturated with a strong solution of bi-chloride of mercury, in the proportion of one ounce of bi-chloride of mercury to a gallon of water, and encased in an air-tight zinc, tin, copper or lead lined coffin, or in an air-tight iron casket, hermetically sealed, and all enclosed in a strong, tight wooden box; or the body must be prepared for shipment by being wrapped in a sheet and disinfected by solution of bi-chloride of mercury as above, and placed in a strong coffin or casket, and said coffin or casket encased in a hermetically sealed (soldered) zinc, copper or tin case, and all enclosed in a strong outside wooden box or material not less than one inch and a half thick.

RULE 3. In cases of contagious, infectious or communicable diseases the body must not be accompanied by persons who, or articles which have been exposed to the infection of the

disease. And in addition to permit from Board of Health or proper health authority, agents will require an affidavit from the shipping undertaker stating how body has been prepared and kind of coffin or casket used, which must be in conformity with Rule 2.

RULE 4. The bodies dead of diseases that are not contagious, infectious or communicable, may be received for transportation to local points in same State, when encased in a sound coffin or metallic case, and enclosed in a strong wooden box, securely fastened so it may be safely handled. But when it is proposed to transport them out of the State to an inter-State point (unless the time required for transportation from the initial point to destination does not exceed 18 hours) they must be encased in an air-tight zinc, tin, copper or lead lined coffin, or an air-tight iron casket, or a strong coffin or casket encased in a hermetically sealed (soldered) zinc, copper or tin case, and all inclosed in a strong outside wooden box of material not less than one inch thick. In all cases the outside box must be provided with four iron chest handles.

RULE 5. Every dead body must be accompanied by a person in charge, who must be provided with a ticket, and also present a full first-class ticket, marked "corpse," and a transient permit from Board of Health, or proper health authority, giving permission for the removal, and showing name of deceased, age, place of death, cause of death (and if of a contagious or infectious nature), the point to which it is to be shipped, medical attendant, and name of undertaker.

RULE 6. The transit permits must be made with a stub, to be retained by the person issuing it, the original permit must accompany the body to destination, and two coupons; the first coupon to be attached by agent at initial point and sent to the general baggage agent, and the second coupon by the last train baggageman. The stub, permit and coupons, must be numbered so the one will refer to the other, and on the back of permit will be a space for undertaker's affidavit, to be used in case of contagious or infectious diseases as required by Rules 2 and 3.

RULE 7. The box containing corpse must be plainly marked with paster, showing name of deceased, place of death, cause of death, the point to which it is to be shipped, number of transit permit issued in connection, and name of person in charge of the remains. There must also be blank spaces at bottom of paster.

for station agent at initial point to fill in the form and number of passage ticket, where from, where to, and route to destination of such ticket.

RULE 8. It is intended that no dead body shall be moved which may be the means of spreading disease, therefore, all disinterred bodies, dead from any disease or cause, will be treated as infectious and dangerous to public health, and will not be accepted for transportation unless said removal has been approved by the State Board of Health, and the consent of the health authority of the locality to which the corpse is consigned has first been obtained, and the disinterred remains enclosed in a hermetically sealed (soldered) zinc, tin or copper lined coffin or box, or a box encased in hermetically sealed (soldered) zinc, tin or copper cases.

SUGGESTIONS CONCERNING QUARTERLY REPORTS.

In view of the fact that quarterly reports from County Health Officers to this office so frequently contain errors, it is hoped that the following suggestions will be carefully read and heeded :

BIRTH RETURNS.

The first column of the birth blank, "number of births," must correspond to the number of mothers, and is the same as "number of children," unless plurality births occur, in which case there are more children than mothers or fathers.

In "grouped ages of parents," care must be taken that the number of fathers and mothers are the same. So, also, in "nationality of parents." It will thus be seen that "number of births" and number of fathers and mothers should, in all cases, be the same, while the number of children may be greater on account of plurality of births.

Please report "still-births" on the birth blanks only, and not on the death blanks.

When a woman is delivered of a child at or after the twenty-eighth week of utero-gestation, it must be returned as a birth, under the twenty-eighth week it is an abortion or miscarriage, and does not require a return.

DEATH REPORTS.

Five items are to be considered in filling the death blanks, viz.: months, color, nationality, condition and grouped ages of decedents.

The number of males and females must be the same in all the items, *e. g.*, if there are sixteen males and fourteen females in months, the same must occur in all the other items. Before a report is sent in it should be verified.

MARRIAGE REPORTS.

Marriage return blanks are not so complicated and less liable to be incorrect. Care need only be taken to have the same number of grooms and brides, both in grouped ages and nationality.

There is no good reason why marriage reports should not be accurate. The Clerk of the Circuit Court, in compliance with the act of February 19, 1891, is required to furnish the applicant for the marriage license with a blank (Form 3), which is to be filled out by the person solemnizing the marriage, and by that person to be returned to the Clerk. At the end of the month, or within five days after that time, the Clerk is required to hand these blanks, so filled out, to the Secretary of the County Board of Health.

In order to ascertain whether these blanks, so received, represent the actual number of marriages for the month, the Secretary of the County Board of Health must examine the Clerk's record for the same month. It will thus be seen whether all persons who solemnize a marriage complied with the law in filling and returning form 3.

CITY AND TOWN HEALTH OFFICERS.

City and town Boards of Health are subordinate to the County Board of Health of the county in which they are situated and must execute the regulations of the County Boards within their respective municipalities, and have immediate supervision of the sanitary condition of the town and the general health of its inhabitants.

Town Boards of Health are authorized, and it is their duty, to make regulations additional to the County Board regulations, as special conditions may demand, not incompatible with law.

The town and city health officers should not only attend specially to the health affairs of their respective municipalities, but should, in a general way, aid the county health officer by reporting to him such pertinent facts of importance as may come to their knowledge in their respective vicinities, and county health officers should be diligent in devising and executing measures for obtaining correct information touching the sanitary condition of, and the health of the people in all parts of their respective counties, including the most remote from their offices and least accessible.

REPUTABLE MEDICAL COLLEGES.

The following is a list of reputable medical colleges in the United States and Canada. Clerks of Circuit Courts are hereby forbidden to issue licenses upon diplomas from colleges not found in this list, which was adopted by the State Board of Health June 30, 1891:

1. Medical College of Alabama, Mobile.
2. Medical Department Arkansas Industrial University, Little Rock.
3. Cooper Medical College, San Francisco.
4. Medical Department University of California, San Francisco.
5. California Medical College, Eclectic, San Francisco.
6. Hahnemann Hospital College of San Francisco.
7. College of Medicine of the University of Southern California, Los Angeles.
8. University of Toronto Medical Faculty, Toronto.
9. Trinity Medical College, Toronto.
10. Royal College of Physicians and Surgeons, Kingston.
11. Medical Department of the Western University, London.
12. Woman's Medical College, Toronto.
13. Woman's Medical College, Kingston.
14. McGill University Faculty of Medicine, Montreal.

15. Ecole de Medicine et de Chirurgie, Montreal.
16. Laval University, Medical Departments, Quebec and Montreal.
17. University of Bishop's College, Faculty of Medicine, Montreal.
18. Halifax Medical College, Halifax.
19. Dalhousie University, Faculty of Medicine, Halifax.
20. Manitoba Medical College, Winnipeg.
21. University of Denver, Medical Department, Denver.
22. Medical Department University of Colorado, Boulder.
23. Gross Medical College, Denver.
24. Yale University, Department of Medicine, New Haven.
25. National Medical College, Washington.
26. University of Georgetown, Medical Department, Washington.
27. Howard University, Medical Department, Washington.
28. Medical Department, National University, Washington.
29. Medical College of Georgia, Augusta.
30. Atlanta Medical College, Atlanta.
31. Georgia College of Eclectic Medicine and Surgery, Atlanta.
32. Southern Medical College, Atlanta.
33. Woman's Medical College of Georgia and Training School for Nurses, Atlanta.
34. Rush Medical College, Chicago.
35. Chicago Medical College, Chicago.
36. Hahnemann Medical College and Hospital, Chicago.
37. Bennett College of Eclectic Medicine and Surgery, Chicago.
38. Woman's Medical College of Chicago.
40. College of Physicians and Surgeons of Chicago.
41. Chaddock School of Medicine, Quincy.
42. Physio-Medical Institute, Chicago.
43. Physio-Medical College of Indiana, Indianapolis.
44. Medical College of Indiana, Indianapolis.
45. Central College of Physicians and Surgeons, Indianapolis.
46. Fort Wayne College of Medicine, Fort Wayne.
47. *Indiana Eclectic Medical College, Indianapolis.

* Extinct 1891. Diplomas good up to that date.

48. Eclectic College of Physicians and Surgeons, Indianapolis.
49. College of Physicians and Surgeons, Keokuk.
50. Medical Department, State University of Iowa, Iowa City.
51. Homeopathic Medical Department, State University of Iowa, Iowa City.
52. Iowa College of Physicians and Surgeons, Des Moines.
53. Iowa Eclectic Medical College, Des Moines.
54. Wichita Medical College, Wichita.
55. University of Louisville, Medical Department, Louisville.
56. Kentucky School of Medicine, Louisville.
57. Louisville Medical College, Louisville.
58. Hospital College of Medicine, Louisville.
59. Medical Department Tulono University of Louisiana, New Orleans.
60. New Orleans University, Medical Department, New Orleans.
61. Medical School of Maine, at Bowdoin College, Brunswick.
62. University of Maryland, School of Medicine, Baltimore.
63. College of Physicians and Surgeons, Baltimore.
64. Baltimore Medical College, Baltimore.
65. Women's Medical College of Baltimore.
66. Harvard University Medical School, Boston.
67. Boston University School of Medicine, Boston.
68. College of Physicians and Surgeons, Boston.
69. Department of Medicine and Surgery of the University of Michigan, Ann Arbor.
70. Homeopathic Medical College of the University of Michigan, Ann Arbor.
71. Detroit College of Medicine, Detroit.
72. Michigan College of Medicine and Surgery, Detroit.
73. Minneapolis College of Physicians and Surgeons, Minneapolis.
74. College of Medicine and Surgery, Minneapolis.
75. College of Homeopathic Medicine and Surgery, Minneapolis.
76. Missouri Medical College, St. Louis.

77. St. Louis Medical College, St. Louis.
78. Homeopathic Medical College of Missouri, St. Louis.
79. Kansas City Medical College, Kansas City.
80. St. Louis College of Physicians and Surgeons.
81. American Medical College, St. Louis.
82. Northwestern Medical College, St. Joseph.
83. University Medical College of Kansas City.
84. Ensworth Medical College, St. Joseph.
85. Beaumont Hospital Medical College, St. Louis.
86. Kansas City Homeopathic Medical College, Kansas City.
87. St. Louis Hygienic College of Physicians and Surgeons, St. Louis.
88. Omaha Medical College, Omaha.
89. Dartmouth Medical College, Hanover.
90. Medical and Surgical College of the State of New Jersey, Jersey City:
91. College of Physicians and Surgeons in the City of New York.
92. Albany Medical College, Albany.
93. University of the City of New York, Medical Department.
94. Medical Department of the University of Buffalo.
95. Long Island College Hospital, Brooklyn.
96. New York Homeopathic Medical College, New York City.
97. Bellevue Hospital Medical College, New York City.
98. New York Medical College and Hospital for Women, New York City.
99. Eclectic Medical College of the City of New York.
100. Woman's Medical College of the New York Infirmary, New York City.
101. College of Medicine of Syracuse University, Syracuse.
102. Medical Department of Niagara University, Buffalo.
103. Leonard Medical School, Raleigh.
104. Medical College of Ohio, Cincinnati.
105. Western Reserve University, Medical Department, Cleveland.
106. Eclectic Medical Institute, Cincinnati.
107. Sterling Medical College, Columbus.
108. Homeopathic Hospital College, Cleveland.

109. Cincinnati College of Medicine and Surgery, Cincinnati.
110. Miami Medical College, Cincinnati.
111. Medical Department of the University of Wooster, Cleveland.
112. Pulte Medical College, Cincinnati.
113. Columbus Medical College, Columbus.
114. Toledo Medical College, Toledo.
115. Northwestern Ohio Medical College, Toledo.
116. Woman's Medical College of Cincinnati.
117. Medical Department Willamette University, Portland.
118. University of the State of Oregon, Medical Department, Portland.
119. University of Pennsylvania, Department of Medicine, Philadelphia.
120. Jefferson Medical College, Philadelphia.
121. Hahnemann Medical College and Hospital, Philadelphia.
122. Medico-Chirurgical College of Philadelphia.
123. Western Pennsylvania Medical College, Pittsburg.
124. Woman's Medical College of Pennsylvania, Philadelphia.
125. Medical College of the State of South Carolina, Charleston.
126. Medical Department University of Nashville and Vanderbilt University, Nashville.
127. Medical Department University of Tennessee, Nashville.
128. Memphis Hospital Medical College, Memphis.
129. Meharry Medical Department of Central Tennessee College, Nashville.
130. Grant Memorial University, Department of Medicine, Chattanooga.
131. Tennessee Medical College, Knoxville.
132. Hannibal Medical College, Memphis.
133. Texas Medical College and Hospital, Galveston.
134. Medical Department University of Vermont, Burlington.
135. University of Virginia, Medical Department, Charlottesville.
136. Medical College of Virginia, Richmond.

OPINIONS OF THE ATTORNEY-GENERAL.

INDIANAPOLIS, August 6, 1891.

*C. N. Metcalf, M. D., Secretary Indiana State Board of Health,
Indianapolis, Ind.:*

DEAR SIR—You ask the following questions relative to the power of Boards of Health to abate nuisances, and to require physicians and other persons to report births and deaths:

First. Can local Boards of Health enact regulations on the subject of nuisances for the preservation of the public health?

Second. Can physicians be required to report to the Secretary of the Board of Health of the town, city or county, all births and deaths which may occur in their practice?

These questions are provided for in section 9 and 10 of an act of the General Assembly, approved March 7, 1881. This law, however, was amended by an act of 1891. (See Act 1891, p. 15.)

I find that these questions have been elaborately discussed and decided by ex-Attorney-General Francis T. Hord, in so far as they are governed by the act of 1881.

Examination discloses that the latter act of 1891 does not change the law on these questions in any material particular.

I have read the opinion of Mr. Hord carefully, and fully concur in that conclusion, and therefore adopt them as fully applying to and covering the present law. (See opinions Hord, Attorney-General for 1884, p. 54.)

Respectfully,

A. G. SMITH,
Attorney-General.

OPINION OF THE ATTORNEY-GENERAL REGARD- ING REPORTS OF LOCAL PHYSICIANS.

Dr. C. N. Metcalf, Secretary State Board of Health:

SIR.—You submit to me the following question: Can physicians be required to report to the Secretary of the Board of Health of the town, city or county, all births and deaths which may occur under their supervision?

The statute renders it the duty of physicians to report to the Secretary of the Board of Health of the town, city or county

in which they may occur, and within fifteen days thereafter, all births and deaths which may happen under their supervision, with a certificate of the cause of death, and such correlative facts as may be required in the blank forms furnished as provided by law, and any physician willfully or purposely failing or refusing to comply with the provisions thereof is deemed guilty of a misdemeanor, and upon conviction thereof is subject to a fine of not less than five dollars nor more than ten dollars. (R. S. 1881, Sec. 4995.)

The duties imposed by this statute, and the penalty for its violation are within the police power of the State, and the statute is valid and constitutional. (*Robinson v. Hamilton*, 60 Iowa, 134; 46 Amer. R. 63.)

In case of *Robinson v. Hamilton*, *supra*, which was an action for a penalty against a physician, for his failure to render a report of a death or birth as requested by the State Board of Health, the Court says: "It is proper to remark that under the statute brought in question, the defendant may be required to report the information sought in the manner prescribed by the Board of Health. The statute requires the collection of statistics pertaining to the population of the State and the health of the people which may impart information useful in the enactment of laws and valuable to science and the medical profession, to whom the people look for remedies for disease and for means tending to preserve health. The objects of the statute are within the authority of the State and may be attained in the exercise of its powers. Similar objects are contemplated by statutes requiring a census to be periodically taken, the constitutionality of which we have never heard questioned. "We need not inquire whether the provisions of the statute are unjust or oppressive. These matters are for the consideration of the legislative department of the government. We may observe that it is difficult to discover oppression or injustice in requiring the medical profession to make known to the world statistics which may promote, and are promoting, the public health.

"One ground in the demurer is that defendant, under the statute, is required to do that which is impossible for him to perform.

"The law requires of no man impossibilities. If the information sought from defendant could not have been obtained by

him in the *bona fide* exercise of reasonable diligence, the law will not punish him for not imparting it. A physician should honestly endeavor to obtain and report all information required by the regulations of the statute and the Board of Health. This is his duty as a surgeon, and is imposed as an obligation by the ethics of the useful and honorable profession of which he is a member."

The statute confers on a physician certain privileges, and may impose corresponding duties.

Respectfully, FRANCIS T. HORD,
Attorney-General.

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(The Alabama State Medical Association constitutes the State Board of Health.)

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TEXAS.

Dr. Robert Rutherford, Houston, State Health Officer.

VERMONT.

Dr. C. S. Caverly, Rutland, President; Dr. J. H. Hamilton, Richford, Secretary; Dr. O. W. Sherwin, Woodstock.

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PROVINCIAL BOARD OF HEALTH OF MANITOBA.

Dr. F. J. Goulding, Winnipeg, Secretary.

CIRCULARS.

With the object of improving the health service and making it as efficient as possible and thereby place the State in a good sanitary condition and in doing so limit the number of dangerous diseases and cause our statistics to be as complete as they ought to be, and as they could be made if all that are engaged in the work would do their whole duty as servants of the people, the State Board published and circulated the following circulars: (In connection with circular No. 1, we published the law relating to public health and organization of boards of health.)

No. 1.

STATE BOARD OF HEALTH,
INDIANAPOLIS, IND., April 25, 1891. }

DEAR DOCTOR—We beg to call your attention to the fact that owing to several causes our statistics are not nearly as complete as they ought to be, and as they can be made if all health officers will do their duty. We call upon you to assist in this work to the extent of your ability.

When one accepts an official position it is implied that he will perform all the duties pertaining thereto, without regard to the salary attached. County health officers are, as a rule,

poorly paid, but in many cases they fix the price of their labor themselves, and in all cases accept the price offered; therefore, the excuse that small pay justifies neglect of duty is a poor one and ought not to be made.

If the physicians of your county are not supplied with the blanks for making reports of births, deaths, and dangerous diseases, such blanks will be supplied on application to this office. When so supplied it is your duty to require each one to report promptly all such births, deaths, etc., occurring in his practice, and in case of failure to do so, to cause the offenders to be prosecuted. A single prosecution in each county will bring about the desired result.

JOHN N. TAYLOR, M. D., President.
C. N. METCALF, Secretary.

No. 2.

STATE BOARD OF HEALTH,
INDIANAPOLIS, May 2, 1891. }

DEAR DOCTOR—You are hereby instructed to notify all property owners or occupants, to thoroughly clean their premises of garbage waste or other matter likely to prove dangerous to the public health. This cleaning should be ordered to be done as soon as proper notice of the same can be given through the public press or otherwise as may be deemed best. Any one resisting the execution of such orders should be prosecuted as provided in section 2066, Revised Statutes of 1881.

JOHN N. TAYLOR, M. D., President.
C. N. METCALF, M. D., Secretary.

No. 3.

STATE BOARD OF HEALTH OFFICE,
INDIANAPOLIS, IND., May 21, 1891. }

Hon. Board of Commissioners for the County of ———.

GENTLEMEN—You are hereby notified that a conference composed of representatives of all the Boards of Health in the State of Indiana, will meet in the State House at Indianapolis June 11, 1891, at 11 A. M., and will continue in session one day.

The object of the conference is to increase the efficiency of the work of sanitation in the State by establishing the methods approved by the State Board of Health—of collecting vital statistics, repelling epidemics, investigating sources of danger

to the public health, declaring nuisances, etc. In addition to these, other matters relating to public sanitation will be presented for consideration.

We would urge upon your Honorable Board the necessity of keeping your county in line with the advance of sanitary science elsewhere; that the spread of contagious and infectious diseases, the entrance of epidemics, the cause of local disorders be sought out, removed and prevented, and the diseases abated by timely and intelligent measures.

These possibilities should enlist your sympathies and energies in the work of public sanitation in common with those of other Boards of Health of the State.

It is expected that these conferences will be held yearly, some time in June, and would ask the Boards to which this notification comes, hereafter to make it a part of their annual contract with the County Health Officer to attend them.

His attendance upon the session of the proposed conference is not included in the present contract with county health officers.

We would respectfully ask that your Honorable Board allow him expenses incident to attendance.

JOHN N. TAYLOR, M. D.,
President.

C. N. METCALF, M. D.,
Secretary.

No. 4.

INDIANAPOLIS, May 25, 1891.

DEAR DOCTOR—You are hereby informed that there will be a conference of town, city and county health officers in the rooms of this Board on Thursday, June 11, 1891, at 11 o'clock A. M., for the purpose of discussing matters pertaining to the duties of Boards of Health in collecting vital statistics, abating nuisances, and the preservation of public health.

The Indiana State Medical Society will meet June 10th and 11th, and special rates can be secured by paying full fare coming and taking a receipt from the agent at the starting point, thus entitling you to a return ticket for one-third fare.

You are urged to attend this meeting and participate in its deliberations. A program will be sent you later.

C. N. METCALF, M. D.,
Secretary.

No. 5.

STATE BOARD OF HEALTH OFFICE,
 INDIANAPOLIS, Oct. 6, 1891. }

To Town, City and County Health Officers :

In view of the fact that scarlatina and diphtheria are prevailing to such a degree of severity in many localities of the State that it has been found necessary to close the public and private schools, the State Board of Health feels that it is its duty to call the attention of health officers to the rules, regulations and laws pertaining to the public health, and insist upon their enforcement.

It is in times of danger from contagious and infectious diseases that the people look to Boards of Health for protection and relief. You are especially referred to the following rules, passed and promulgated by this Board, 2, 4, 5, 6, 7, 8, 11 and 12, relating to the reporting, control and management of such diseases. By reading these rules you will see that a health officer's duty does not cease with the placing of a flag or card on a house announcing the fact that a certain contagious disease is prevailing within, but that it is the first step in his line of duty, towards establishing and maintaining a quarantine. The rules which we refer you to, a copy of which we sent you some time ago, and which we ask you to study carefully, are simple, to the point, and very plainly instruct you what to do in all cases of epidemic diseases occurring within your jurisdiction.

This Board looks upon an outbreak of a contagious and infectious disease extending beyond its first victims unchecked as an evidence of neglect or ignorance of duty of local boards, "inexcusable because a knowledge of methods of prevention or control, and the legal power to enforce regulations to those ends, have been abundantly provided."

We regret that we are compelled to say that it has come to our knowledge that funerals of persons dead with scarlet fever and diphtheria have been publicly held in the State within the past few months. A health officer who allows within his jurisdiction a public funeral of a person dead from one of these diseases is most certainly neglectful of his duties. Because a funeral is held at the residence of the deceased, and not in a church, it does not necessarily follow that it is private, as the rule requires that it should be in all cases of death from

one of the diseases named. Health officers should guard the funeral of persons dead from these diseases with the greatest care, and see to it that rule 12 in every particular is strictly enforced.

The State Board of Health is anxious that the vital statistics of the State be brought as near a state of perfection as possible within the coming year, and therefore ask that you cause the strict enforcement of rules 13, 16, 17, 18 and 21.

Section nine of the act establishing a State Board of Health, passed February 19, 1891, provided that "it shall be the duty of County Boards of Health to promulgate and enforce all rules and regulations of the State Board of Health in their respective counties which may be issued from time to time for the prevention of epidemic and contagious diseases.

And the Secretary of any Board of Health who shall fail to or refuse to promulgate and enforce such rules and regulations shall be deemed guilty of a misdemeanor, and upon conviction thereof shall be fined in any sum not exceeding one hundred dollars, and upon a second conviction the court or jury trying the cause may add imprisonment in the County Jail for any period not exceeding ninety days.

By order of the Board.

JOHN N. TAYLOR, M. D.,
President.

C. N. METCALF, M. D.
Secretary.

CONFERENCE OF HEALTH OFFICERS.

INDIANAPOLIS, June 5, 1891.

The following is the program for the conference of town, city and county health officers to be held at the rooms of this Board June 11, 1891, at 11 o'clock A. M.:

"Imperfections of Our Sanitary Statistics." Geo. Rowland, M. D., Covington, Ind.

"Water Supply and Sources of Contamination, with special reference to Logansport, Ind." N. W. Cady, M. D., Logansport, Ind.

"Vital Statistics." J. F. Hibberd, M. D., Richmond, Ind.

"Field Methods of Sanitary Water Analysis, with Practical Demonstrations." J. N. Hurty, M. D., Ph. D., Indianapolis.

"Epidemic, Contagious and Infectious Diseases, and Methods of Prevention." J. S. Arwine, M. D., Columbus, Ind.

"Vital Statistics; How to Make Returns Complete." D. W. Dryer, M. D., Lagrange, Ind.

"What Constitutes a Nuisance; How Declared and How Abated." T. Henry Davis, M. D., Richmond, Ind.

"Christian Science." F. A. Chenoweth, M. D., Winchester, Ind.

"Water Supply, Town, City and Country." President State Board of Health.

Other subjects may be discussed if those present desire it and time will permit. Health officers will please give notice of subjects they wish discussed.

Yours truly,

C. N. METCALF, M. D.,
Secretary.

The following physicians and health officers were present :

A. J. Axtell.....	Bloomington.
J. S. Arwine	Columbus.
G. W. Bence	Greencastle.
Jas. F. Hibberd	Richmond.
D. J. Cummings.....	Houston.
A. A. Hamilton	Marion.
W. A. McCoy	Madison.
T. Henry Davis.....	Richmond.
J. C. Burlington.....	Attica.
H. V. Passage.....	Peru.
Thos. Wheeler	Bloomfield.
Clark Cook	Fowler.
H. F. Costello	Decatur.
Erwin Wright.....	Huntington.
O. K. Thomson.....	Greensburg.
Marion Goss	Rockville.
A. W. Brayton.....	Indianapolis.
F. A. Chenoweth	Winchester.
Chas. Knapp	Evansville.
C. A. Kessinger	Martinsville.
Martin Miller	South Bend.

J. C. Allen	Hagerstown.
Robert Harris	South Bend.
L. E. Alexander	Pendleton.
J. D. McCann	Monticello.
C. F. Harter	Akron.
L. C. Johnson.....	Fountain City.
C. R. Long.....	Pierceton.
C. E. Rankin	Crawfordsville.
G. D. Brannon	Crown Point.
G. K. Throckmorton.....	Lafayette.
S. B. Sims	Frankfort.
O. W. Edwards	Frankfort.
E. Hawkins.....	Greencastle.
Clark Robbins	Mooreville.
A. C. Bartlett	New Castle.
H. A. Cowing.	Muncie.
G. W. Shultz.....	Lebanon.
D. Swartz.....	Auburn.
John P. Salb.....	Jasper.
R. H. Smith	Kokomo.
C. C. Holman	West Indianapolis.
S. S. Boots.....	Greenfield.
J. N. Hurty.....	Indianapolis.
T. J. Dills	Ft. Wayne.
S. R. Seawright	Lafayette.
John N. Taylor.....	Crawfordsville.

VEVAY, IND., June 8, 1891.

C. N. Metcalf, M. D., Secretary, Indianapolis, Ind.:

MY DEAR DOCTOR—At the last moment I find I will not be able to attend the conference of health officers in your city on the 11th inst., and I desire to say just a word on two points by way of inquiry, viz.: First, from my standpoint in this little city, the most important point is, “vital statistics; how to make returns complete.” This is the subject given Dr. D. W. Dryer, of Lagrange. As I view it, our State would better obtain complete returns of all deaths, births and marriages to the neglect of some other matters (however important) for a few years, until the public are educated up to those three simple things, and then work up gradually to these other things

rather than attempt too much now and fail in all. Incomplete statistics are worse than none at all, as they mislead. Now, the great obstacle seems to be to interest the doctors enough to make said returns. Why not amend the rules to allow the doctor to make a quarterly report to his home Secretary instead of calling on him for a return in fifteen days.

Then have the County Secretary send to each doctor in his county, at the end of each quarter, reminding him of his duties. Why not allow each doctor enough to pay his postage?

My second point is purely an interrogatory one, and will, I hope, be answered by Dr. Davis, of Richmond. "What is a nuisance," and especially the latter part, "how declared and how abated?" What is the authority of a County Secretary, and how exercised? The lawyers here seem to think I can only inform the lawful authorities of the existence of a nuisance, or make an affidavit, and any one can do that.

With many good wishes for the success of the conference,

I am very truly yours,

GEO. WELBY VANPELT,
Secretary Switzerland County.

VITAL STATISTICS.

BY JAS. F. HIBBERD, M. D.

My conviction for a long time has been that the result of the work of the county health officers in Indiana was not commensurate with the labor and expense it involved, and that possibly it might be so modified, that, while results would be no worse at least, labor and expense would be less.

An amended law by the last Legislature establishing the State Board of Health, appears to me to offer an opportunity, if it does not demand the revision of the regulations by the State Board under which the County and Municipal Boards of Health are instructed in their duties, and the present, therefore, seems to be the acceptable time for the consideration of the

entire field, including the method of collecting, caring for, and disposing of vital statistics; the rules governing the management of dangerous, contagious diseases, the burial of the dead and the duty of looking after and abating nuisances.

And I was also impressed that a consultation among those who have had experience in County and City Boards of Health work might evoke fresher thoughts and a wider view of what the occasion demands and how it might be met.

Accordingly it was with much pleasure I received the notice that this conference had been called by the State Board of Health, and it is gratifying to meet here to-day such a company as this to consider the intricate and difficult question of the revision of the work of the County and Municipal Boards of Health.

Vital statistics claim more attention than any other matter by all boards of health in this State, and, therefore, should have first attention, although they are far from being the most important service that should engage the attention of health officers.

That the vital statistics of Indiana are worthless for any useful purpose is a proposition that need but be stated to be accepted, but Indiana is not peculiar in this particular, only in dense populations, and where the service of trained observers and experts are at command, it is possible to present vital statistics of value. Indiana has no such communities outside her larger cities, and consequently it was a mistake to undertake the collection of vital statistics in the State at large, and in my judgment the proper thing to do after ten years of wasted labor and the expenditure of thousands of dollars, is to abandon further effort in this behalf so far as the terms of the existing statute will permit.

The present law is almost identical with the law of 1881, establishing a State Board of Health, and is mandatory in regard to collecting vital statistics, but leaves the mode and extent of the collecting in the hands of the State Board of Health. Section 10 makes it the duty of all physicians and accoucheurs to report all births and deaths that occur under their supervision, and section 7 provides that the State Board of Health shall have supervision of the registration of births, deaths and marriages, and shall provide the form for the report of the same, while section 11 declares it the duty of the Clerk of the Circuit

Court of each county to report to the Secretary of the County Board of Health the number of marriages for the preceding month, with such facts as are called for by the blanks furnished by the Secretary of the Board of Health.

There is no provision in the statute for reporting dangerous contagious diseases; this work has been done exclusively under the regulations of the State Board of Health, and is, therefore, entirely under its control.

Section 12 makes it the duty of all Boards of Health to keep a complete record of all marriages, births and deaths, according to forms prescribed by the State Board of Health.

What can be done under these provisions of law?

First. As to marriages, the present law requires the Clerk who issues the license to marry to report to the County Health Officer within the first five days of each month all the marriages solemnized within the preceding month. Under the present method this is an impossibility.

The statute (R. S. 5381) allows the person solemnizing a marriage three months within which to make return, and many returns are not made within that time. One return last month by a popular minister in my county was nine months and one day after the marriage, and numerous others are four, five or six months after marriages. What the Clerk does—at least in Wayne County—is to report all the forms 3 that were received in his office during the preceding month, and as these are returned with the certificates they are largely out of date and quite void of value for reference.

Besides this, not a few of the forms 3 are illegibly filled in, blotted and blurred so that a correct record is out of the question.

As the Clerk's office keeps a record of marriages, and has done so for years, all parties seeking information in this line go there for it, and consequently the Board of Health record is of no use in this direction, nor indeed in any direction whatever, and should be abandoned. But if it can not legally be abandoned, form 3 should be simplified and the person solemnizing a marriage should be required to file his return within twenty-four hours of the marriage. This, I suppose, could be commanded by the State Board without regard to the three months allowed by section 5381 of the R. S. for the return of the certificate.

Secondly. If the returns of births can not be dropped entirely, the service should be confined to cities having a Board of Health under their ordinances. And if returns are continued in any wise the blanks for the purpose should be simplified and the accoucheur required to file return within twenty-four hours of the birth it reports

Thirdly. In the matter of death returns none should be exacted except in cities having a Board of Health under a local law that requires a permit before any corpse can be buried or otherwise disposed of, and in this case the present blank should be modified.

Fourthly. Contagious diseases dangerous to public health are not required by law to be either reported or recorded, but the method now in use for reporting them was doubtless adopted as a basis of action for preventing the spread of the contagion, which is an exceedingly important point. This method, or one closely allied, should be continued in all the cities and larger towns of the State, but the method of reporting and of management after report, should be under a regulation of the State Board, uniform in all municipalities that undertake the service.

In the rural districts it is not practicable to carry out the methods best adapted to municipalities, and the reports and records now in vogue should be abandoned as useless, when the report is secured by the health officer from any place and acted on, it is of no further service and need not be preserved.

If the collecting of vital statistics is to be continued the blanks used therefor should be revised and prepared in the simplest form compatible with the purpose they are intended to serve, embracing no fact or item not essential to the end aimed at, and all returns should be made immediately after the event they report, respectively. The fifteen days grace in which to report, permitted by the old law, has been repealed, and properly so, as it was a means of causing many a case to be forgotten altogether.

There appears no substantial reason why these returns should be recorded as at present. Two main purposes are ostensibly at the bottom of the demand for these records. The first is that they shall be valuable as books of reference for the facts they are supposed to contain, and the second that their contents shall afford valuable information for students of sanitary

and social science. But they are so imperfect as to be almost useless for reference in any given case where one is seeking particular facts, and for statistical information they are quite unreliable, and if ever so complete they will have accomplished all they can do when they are abstracted for report to the State Board, and for this end no record of the returns is needed. But if the records must be continued the form and style of the record books should be changed.

The books in use are the same as originally prescribed by the State Board at its organization and are large and expensive. The paper is as heavy and the binding as firm as the books for real estate in County Recorders' offices, which are to be constantly handled, while these books of ours are handled only while the record is being made; that completed, they are stored away to mold and to be eaten up by vermin.

They have much waste space, with each record 4,119 entries only and weighs eighteen pounds. They cost about \$25 each, while, under permission, I have prepped books for use in my county, as the old ones have been filled, with no waste space, about one-half the thickness of the old ones, weigh ten pounds, will record 5634 entries, and cost, gotten up singly, \$13.25, and in quantity, I am advised by manufacturer, could be furnished at \$8.

Touching the revision of the rules relating to the work of county and subordinate Boards of Health, it was my thought in the beginning to go somewhat into detail in presenting my views of the modifications required to adapt them more successfully to present demands of the service, but there being so much business before the conference I will content myself with asking an expression of opinion on the general subject, with the understanding that if the sentiment of the conference should favor a revision, the details of modification can be more satisfactorily inquired into and determined afterward. I am free to suggest, however, that if the reconstruction of these rules be undertaken their proper adjustment is an affair that should have the most earnest and logical consideration.

EPIDEMIC, CONTAGIOUS AND INFECTIOUS DISEASES.

BY J. S. ARWINE, M. D.

MR. PRESIDENT.—I have no hesitation in acknowledging my embarrassment in attempting to discuss a matter of so much importance to the profession and the public in general, as that of epidemic, contagious and infectious diseases, knowing as I do, that my limited ability will not permit me to present, even one, of the many phases of such diseases in a clear and instructive manner. I would have declined undertaking so weighty a task had I not been impressed with the idea that it was my duty to work in the interest of humanity. And with the understanding that any error I may make or any erroneous idea I may advance, will be promptly corrected by my brother health officers, I feel that I will thereby be the better prepared to serve the public, whom we know are deeply affected by both endemic and epidemic, contagious and infectious diseases; which fact, must at least attract all true medical students in a scientific way, knowing as we do that no class, race or condition is exempt from the ravages of infection in some form and at some time.

I believe, in the present state of our knowledge, the causes which produce infectious diseases have not been thoroughly established, perhaps are unknown, so it becomes the duty of health officer, philanthropist and scientist to carefully investigate all out-breaks of infection, discover if possible, the cause and thereby be enabled to turn aside the epidemic, and prevent sickness and sorrow among the people.

I am of the opinion that the greater part, if not all, of the sickness to which frail, though highly organized humanity is subject, results from animal poison, such as emanates from the waste products of life, decomposing organic substances thrown off from the body by the excretory organs, where it undergoes chemical change and forms what may, with propriety, be called animal poison, this under favorable circumstances finds its way back into the body, generally through the medium of air and

water. For example, I refer to the breathing and rebreathing again and again the air of crowded and unventilated rooms or the breathing of air and drinking of water contaminated by the products, resulting from chemical changes, which take place in the sewage of out-closets.

These newly-formed compounds, I have no doubt, often give rise to epidemics of infection, which spread among the people. The first case may be regarded as a most simple ailment, while the poison germs or micro-organisms developed from it are sufficiently noxious to give rise to an epidemic of contagion of the most virulent type, accompanied by all the horrors which attend such outbreaks, whatever the specific nature of the infection may be.

Let the character of the poison be what it may, I believe the idea generally adopted by the profession is that epidemic contagious and infectious diseases are produced and spread by germs or micro-organisms of the lowest type, which find a soil suitable for their development, reproduction and propagation in the human excreta, such as is thrown off from the lungs, bowels and kidneys.

The poison emanating from these waste products of life is most generally conveyed from the sick to the well by the air and water, possibly at times by actual contact. I believe, under ordinary circumstances, the possible area of infection by emanations from the sick is limited to a few feet.

Therefore, we, as health officers, can, individually and collectively, do more in the way of preventive medicine or in preventing outbreaks and the spread of infectious diseases by untiring efforts in educating the people to strictly observe not only hygienic purity of person, but of their homes and surroundings.

Pure air and pure water constitute two of the first essentials of good health, therefore the first and most important question that confronts us, as health officers, and that in which the public has the greatest interest from a sanitary standpoint, is the disposal of all the waste products of life, particularly the excreta of the human body, that they may not contaminate, poison or fill the air and water with germs or parasites which mankind must breathe and drink.

In this great country of ours the water supply is sufficient for all purposes, and was once comparatively pure; so in our own

State, with proper care, the water supply could be restored to a reasonable degree of purity. But in what condition do we find our streams at the present time? Are they not polluted to a greater or less extent, contaminated from head to mouth by sewage, by the excreta from hundreds and thousands of human beings?

People in a Christian land, who claim to be guided by the tenets of Christianity, though they appear to have no regard for their fellows, no care for those who reside farther down the stream, and who must use the water contaminated by sewage and filth from above, although it may be in a state of dilution, it no doubt often produces diseases.

This being true, it is not strange we find the inhabitants of towns and cities so indifferent as to the purity of their water supply. They seem to care but little whether it is taken from the stream above or below where their own sewage is emptied into the stream, and should you protest, no argument that can be adduced will convince the masses that water will not purify itself, especially if it runs over seven rocks or trickles through four or five feet of sand.

Therefore, it becomes difficult to make the laity understand how it is possible for animal poison, germs or parasites to retain vitality or virulence in water for an indefinite time and then become a source of disease. This, I believe, could be more easily explained if it were generally understood that the sum of life in all organisms consisted of myriads of minute cells, and the changes in these cells are metamorphoses of their structure, in which they are constantly dying and being reproduced. A recognition of cell growth in all life increases our knowledge of the laws governing living organisms both in health and disease, but in the last decade or two the germ or parasite theory of disease has engaged the attention of the profession, and investigators, by the aid of the microscope, have discovered minute vegetable and animal bodies in living organisms, which must undoubtedly disturb cell growth.

However, as yet I am not aware that their importance as factors in the etiology and prophylaxis of diseases has been established by the laws of biology and organic chemistry, nor do I know that physiological investigation has demonstrated that these micro-organisms are the direct cause of disease, although such investigations have established the fact of cell

metamorphosis, which has influenced the medical mind in regard to the use of medicines and the efficacy of external agents in the form of antiseptics.

The practice of antiseptics, introduced by Lister, has certainly given potency to the knife and inspired the surgeons with courage, which has enabled them to do operations with success which a few years since were considered impracticable.

In considering the treatment of epidemics of infectious and contagious diseases it can be appropriately divided into—

Preventive,
Protective and
Curative.

The preventive method may be said to consist of destroying, attenuating or diluting the poison germs or parasites to such an extent that the body may remain unaffected.

Lister furnished us an example by destroying the cause of disease before it had entered the system. At the same time he furnishes as an explanation of the fact that a residence in a high, dry locality, with good and thorough drainage, will be a preventive against disease, or at least the germs will be so attenuated that their virulence is lost. If I am correctly informed, all antiseptic treatment is based upon the possibility of avoiding the cause of disease rather than destroying it.

The protective method has for its object the modifying or purifying of the body to such an extent that it is able to resist the effect of the poison germs or parasites. This may be done by increasing the strength and activity of the individual by diet, warmth and the strict observance of all hygienic practices, which will render the tissues and fluids of the body pure and unsuitable as a habitat for poison germs or parasites, so they have not the power of development and reproduction.

The curative plan of treatment consists in destroying the poison germs or parasites after they have gained entrance into the body. This can only be done by introducing into the blood and tissues of the body some agent which has the power to overcome the effect of the poison, and thereby prevent further development by so modifying the tissues and fluids of the body that they may regain their normal activity and resist the further action of the poison.

This appears to be the idea of Pasteur, Koch and others, who are earnestly engaged in efforts to discover some remedy

that will neutralize the poison germs or parasites, or the physiological action of these agents in the body, by establishing physiological antagonism.

CHRISTIAN SCIENCE.

F. A. CHENOWETH, M. D., WINCHESTER, IND.

On May 21, 1891, I received a telegram from Losantville, a small village in the southwest part of Randolph County, stating that there had been a mysterious death in that community, supposed to be from some contagious disease and for me to come and investigate. It was impossible for me to go on that day, so I sent a telegram directing them to have Dr. H. P. Franks to investigate and report. In about two hours after receiving the telegram, I received a letter written on the day before, stating that there was a family in that vicinity in which three children were sick of some disease supposed to be contagious, and that one of the children was sick unto death, that the other children were allowed to play upon the streets with other children and that the family refused to call in a physician to see the children even after being solicited by most of the inhabitants of that village, they claiming to be Christian Scientists and that the children were being treated by two Christian Science doctors from Ohio. The people, being very much alarmed, desired me to investigate the case and try to prevent an epidemic. I showed the letter and telegram to the Prosecuting Attorney and Judge of Circuit Court and they advised me to see the Coroner and place the facts before him, which I did. On May 22 the Coroner and I went to the town and made a thorough investigation. The Coroner held an inquest and found that the child had died of scarlatina, and upon the examination of a number of witnesses there was evidence to show that the family had been frequently urged by friends to call a physician and have the child receive proper treatment, their reply would invariably be, "The Lord is our physician, we will not give medicine." Even after the child died the friends urged

that a physician be sent for, that the death might be reported to the health officer, but they refused to send for any physician. After the receipt of my telegram, Dr. Franks went to the house and upon the presentation of the telegram was allowed to see the child, and upon examination reported the child to have died of scarlatina, and had the family to flag the house, and had them follow instructions in regard to the care of body of child until the undertaker could take charge of same.

Upon our arrival at the town we went immediately to the house of the family. In answer to my question as to the cause of the child's death, the father said that he did not know the cause of the death, but that Dr. Franks had said that it was scarlet fever. In answer to the question as to who treated the child, the father said: "We give no medicine to any one, neither do we take it ourselves, but we had two men from Ohio to treat our child, and that the men had come to see the child on the morning that he died, but the people would not allow them to come to the house and drove them out of town," which I learned from others to be true. I also learned that when the family learned that these men had been there and had started to walk home, a lady who was accepted as the leader of the Christian Scientists, took a little girl, that was suffering from acute Bright's disease, by the hand and attempted to follow the men. She walked about eight miles, but could not overtake the flying Scientists. At the end of the eight miles, the child being so weak from the violent exercise that she could go no farther, the woman got a horse and buggy and was driven home. The Scientists walked sixteen miles, and trembled in their boots until a train came from the West to take them out of danger.

The Christian Scientists are a sect of people who, as I understand, treat all diseases by faith. They are often called Mind Cures, Faith Cures, etc.

We are going to do all in our power to bring the so-called Christian Science doctors to a halt, and, by the use of the strong arm of the law, attempt to cure the minds of these humbugs by a judicious dose of the same.

FIELD WATER INSPECTION FOR SANITARY PURPOSES.

BY J. N. HURTY, M. D., PH. D., SANITARY AND ANALYTICAL CHEMIST,
INDIANAPOLIS, IND.

THE SANITARY SURVEY.

Closely inspect the surroundings of the well.

Is it in made ground, or has it been dug in the natural earth? What is the condition of the surface surroundings? Are slopes thrown nearer than fifty feet? Are there any sinks or vaults nearer than fifty feet? Are there any abandoned or filled sinks? Inquire closely about abandoned sinks, and, when necessary, sound every square foot within a radius of twenty-five feet of the well with a sharp-pointed steel rod. If soft places or buried boards are found, the sanitary officer should, by digging, determine fully the conditions that exist.

The vault should not be nearer to the well than fifty feet, and should be cleaned if over half full. The vault system is the most objectionable of all systems for disposing of excrement.

THE WELL.

Is it dug or driven, and how deep? What is its condition? Is the curbing in good condition, and does the curbing rise a foot or more above the level of the ground? What is the condition of the platform and pump? Is the rise of curbing above the ground level well banked with solid earth? Can the well in any way receive surface drainage?

THE WATER.

Pump out sufficient water to insure the complete emptying of the pump and stock.

Collect this sample in a flint-glass, half-gallon, saltmouth bottle.

After filling wipe the exterior of the bottle dry and clean, and inspect by holding it up to the sky.

The curved surface magnifies considerably, and helps to discover the smaller particles of suspended matter. Specks of all kinds, dirt or cloudiness speak against the sample. Look thoroughly for transparent floating coagula. These, if present, are not always seen until very close inspection has been made. They tell of coagulated albuminoid matter, and in my experience I have never yet found a water containing them that did not prove to be bad upon full analysis.

COLOR.

Color is determined by placing the bottle upon white paper or cloth and looking downward through the column of water. In this way very faint tints may be discovered. Brown or yellow, or yellow-brown, or red-yellow brown and other tints indicate coloring substances are held in solution. The purest and most desirable waters are free from color.

ODOR.

Odor is determined by filling the bottle about one-fourth full, shaking violently and smelling. Urinous, fecal, and all putrescent odors tell against the sample. Weedy, woody or earthy odors should also be absent.

The purest and most desirable waters are, of course, odorless.

CHEMICAL TESTS.

For field work these consist of two only, the test for chlorine and the test for nitrites.

CHLORINE.

Solution required :

Solution: Silver nitrate.

Silver nitrate	10 grains.
Distilled water.....	2 ounces.
Nitric acid	1 drachm.

Dissolve the silver nitrate in the water and add the nitric acid. Keep in a glass-stoppered bottle.

Application of Chlorine Test: To three ounces of water contained in a four-ounce glass-stoppered bottle add about one-half

drachm of the solution of silver. If chlorine in any form is present a white cloud will appear. This will be heavy or light, according to the quantity of chlorine contained in the water.

Interpretation and Explanation: If a medium cloud appears the indication is important, while a heavy cloud is very serious. Chlorine is largely present in all sewage. Urine, excrement and all house slops contain it, and hence, if found in drinking water in more than traces, that water may rightly be suspected of having been in bad company.

NITRITES.

Solutions required:

I. Hydrochloric acid.

One ounce concentrated pure hydrochloric acid made up to four ounces with distilled water.

II. Sulphanilic acid.

Saturated solution in distilled water.

III. Naphthylammonium chloride.

Saturated solution in distilled water. A small quantity of purified animal charcoal allowed to remain in the bottle will keep it in good condition.

Application of Nitrite Test: Put three ounces of water to be tested into a four-ounce flint glass-stoppered bottle, add one-half drachm of each of the solutions in the order of their numbers, I, II and III. If nitrites be present a pink tint, or color, will shortly appear. Ten to fifteen minutes is sufficient time to wait. The intensity of the color is a measure of the quantity of nitrites.

Interpretation and Explanation: A pronounced pink tint, not to speak of a strong pink color, is a serious indication, and is alone sufficient to condemn. Water may, however, be highly objectionable, and yet not respond to the nitrite test. Nitrites result from the decomposition of nitrogenous organic matter, and this matter, unless it has changed, or is undergoing change, will not appear as nitrites.

URINE TEST.

Solution required :

Silver nitrate.....10 grains.
 Distilled water..... 2 ounces.
 Aqua ammonia..... 2 drachms.

Dissolve the silver nitrate in the distilled water and add aqua ammonia slowly until the precipitate first formed is redissolved and the solution is decidedly alkaline.

Keep in a glass-stoppered bottle.

Application of Test: Add one-half drachm of the solution to three ounces of the water in a glass-stoppered bottle, which then must be placed in sunlight for two hours. A red-brown or deep brown color indicates urine.

Contaminated water gives a faint black to a black precipitate with this test. Pure and wholesome water gives no color.

TEST FOR FECAL MATTER.

Solution required :

Para-diazo-benzol-sulphuric acid....90 grains.
 Distilled water..... 1 ounce.
 Liquor pottassa10 drops.

Application of Test: Add one-half drachm of the solution to three ounces of the water in a glass-stoppered bottle, which then must be allowed to stand in the light for five minutes. A yellowish discoloration appears if fecal matter is present. Pure water gives no color.

A potable water should answer to the following requirements

1. Must be clear, transparent, free from smell and odor and free from suspended matter.
2. It should contain air and a certain amount of carbonic acid, and the air it contains should be supercharged with oxygen.
3. It should have a refreshing taste.
4. It should be absolutely free from nitrogenous organic matter and should not contain above two parts of non-nitrogenous organic matter in each 100,000 parts of water.
5. The organic matter oxidized with permanganate of potassium should not show above .01 of a part of albuminoids in 100,000 parts of water.

6. One hundred thousand parts should not contain above 50 parts of mineral matter, 6 parts of anhydrous sulphuric acid, .02 parts of anhydrous nitrous acid, 3 parts of chlorine in chlorides, 20 parts of oxides of alkaline earths, 3 parts of silica and .03 of a part of iron.

7. It should never contain nitrites, nor sulphuretted hydrogen, nor metals which are precipitated by hydrogen sulphide alone, nor with ammonia, excepting traces of iron, magnesium and alumina.

8. If kept in a closed or open vessel, good water will not develop an unpleasant odor. It should not contain any saprophytæ, leptothrix, hyphetrrix, or any other white algæ, nor should there be found in it many infusoria nor bacteria.

9. Cultivated on gelatin, bacteria liquifying the galatin should not appear within eight days.

10. One hundred thousand parts should not contain above .05 of a part of ammonia.

VITAL STATISTICS—HOW TO MAKE RETURNS COMPLETE.

D. W. DRYER, M. D., LAGRANGE.

In response to your inquiry as to the collection of vital statistics, permit me to submit the following views and methods:

The Secretary of a local Board must have the confidence and coöperation of his medical brethren or his efforts will be futile.

If he puts on an air of great authority, and commences to talk loudly of prosecutions, he will find himself, at the outset, undone.

True it is that our law is defective, and while we deplore that fact, nothing will be gained by letting what we have go by default.

The physician who makes the report, often at great inconvenience to himself, should be compensated for the service;

but as successive legislatures have failed or refused to enact proper laws on the subject, we can only hope for the future and do the best we can with what we have.

Rarely can the physician acquire the statistical facts which surround the event of death, at the time, for obvious reasons. Neither is it a pleasant duty subsequently.

Right here let me interpose the suggestion that the law should prohibit the burial of a human body until a permit is secured from a designated official, probably the Township Trustee, who should have the proper blanks and secure the necessary facts at the time of issuing the permit.

Our law, too, is technically defective in relieving midwives from making birth reports. Different attorneys advise me that the section requiring reports from physicians, accoucheurs or householders, confines it to them and exempts midwives. Almost the only trouble I have had in getting birth reports comes from these midwives. A court might hold that the obvious intent of the law should hold, but I have hesitated to make a test for fear of results. The point should be determined.

Now as to the practical work in this (Lagrange) county.

I am glad to report that our physicians, without exception, have been willing to observe the law, and are in sympathy with the spirit of it.

Reports are promptly made, not always literally within the law, but sufficient for all practical purposes.

It is expected that all reports for any month will be sent in, if not before, so soon as the month ends, and with few exceptions no urging has been required, and then only in a friendly spirit. In a few instances I have been at some trouble from physicians of adjoining counties who practice in this, but in the end have secured the reports sought.

All notices of births and deaths which appear in the local newspapers are clipped and filed. If no physician reports these within two weeks the family is notified that it must report at once. An arrangement has also been made with a friend in each township who advises me from time to time of "arrivals" and "departures." True, the law requires that the householder shall report when no physician was in attendance, but he is quite likely to overlook the fact until notified that he *must* report. That part of the section which relates to householders I have had printed on slips, one of which, with the

proper blank and an addressed envelope, stamped if the family is known to be poor, mailed in all cases known of and not reported by a physician. If the report is not then promptly made a postal card is sent, notifying them that the matter will be left with the prosecutor if not attended to at once. That fetches them. In but few cases, however, has it been necessary to send a second notice. Some of them call at my office and the blank is filled in for them.

Briefly this is the plan pursued since the first of the year, at which time my duties as Secretary first commenced.

The county furnishes all necessary printing and postage.

At the completion of the first quarter a copy, comprising name, age, sex and date for each case of birth and death, was furnished each newspaper, and was published in tabular form, free.

The people took much interest in this, and it will be repeated at the end of each quarter.

In the matter of contagious and infectious diseases and general sanitation the physicians are prompt and energetic, and the people are as a rule glad to comply with the law and rules of the State Board. Printed posters are also used in keeping them advised of the law and their duty.

Pardon me in adding that I determined at the outset to collect absolutely correct statistics, or practically so, and believe that I am accomplishing the end sought. If a birth or death is overlooked it must be because neither myself nor others located in the different parts of the county can learn of it.

The Secretaryship of both town and county has always been merged in one person with us, and the compensation is one hundred and fifty dollars per annum for both.

This amount is inadequate, and should be at least double; but as the "farming out" plan has prevailed here it will require time and honest work to get it where it should be.

My only motive in accepting the appointment for the year was the hope to be able to put the office on a higher plane, and a belief that honest and energetic work might convince the Commissioners and the people that the service is worthy of just compensation. Surely the prevention of disease and the acquiring and recording of vital statistics is worthy of the best efforts of every intelligent and humane physician.

The selling out of this office to any professional mendicant

for a miserable mess of pottage, and to one to whom every dollar is estimated as so much clear gain, is such a prostitution of our profession as should and does disgust every honorable member thereof.

We should demand a law which fixes a salary proportionate to population or, better, a certain fee for each report recorded and mileage when called out to inspect or advise on sanitary matters.

I have not the census report for 1890 at hand, but the report for 1880 gives the mortality in our State at about sixteen in a thousand. Taking at random our State report for 1889, compiled from reports made by our local health officers we find a total of 14,722 deaths recorded for the year. Our population in that year was not less than 2,100,000. This, then, would show a mortality of only *seven in a thousand*. Can anything be more farcical? What more is needed to show the inefficiency of our system?

The census reports are far from perfect and much below the truth. No student of vital statistics can but believe that our true annual mortality exceeds two per cent., or twenty per thousand. I believe the truth will show it not much less than twenty-five. A law or system which secures but *one* report when three should be made needs no diagram to exhibit its defects and practical worthlessness.

But you may say that I have declared a purpose to have complete reports for this year in my county, even with the law as it is. True; but a motive is also declared which will not be perpetual. Any man may labor in a cause dear to his heart, and without just reward, but I take it that few of us are both willing and able to exercise unlimited philanthropy.

The State Board is doing all it can and deserves our unlimited support, but it, too, is crippled at the fountain head.

We must knock and keep knocking; sometime it shall be opened. Sometime there will be a Legislature comprised of men of both parties from whom enough will be found with brains to have discovered that "an ounce of prevention is worth a pound of cure;" men who will regard vital statistics relating to the genus homo at least of as much importance as figures on swine and poultry. Then we will get a law so framed that only the educated worker can find place under it, and at wages suited to the service done.

God alone knows when the time will come, but let us do the best we can and not despair.

Gentlemen, you have my views and methods.

The following resolutions were introduced by Dr. J. F. Hibberd, of Richmond :

Resolved, That the collection of vital statistics as now pursued in the State of Indiana is defective and incomplete, owing to inherent defects in the law governing such; that it is the expression of this conference that the law should be so amended as to provide for such collection in a more effective manner.

Resolved, That if the collection of vital statistics in Indiana, outside certain cities, can not be legally abandoned, the methods of collection should be simplified so as to require only the minimum of expenses and labor that will meet the demands of the law.

Resolved, That the rules and regulations of the State Board of Health prescribing the duties of the County and Municipal Boards of Health and the method of executing them should be modified so as to be concise, plain and practicable. Adopted.

After the discussion of the papers was concluded the question of irresponsible medical colleges came up, and after some discussion a motion was adopted that the State Board of Health be instructed to furnish county clerks throughout the State with a list of the reputable medical colleges of the United States and Canada for their guidance in granting licences to physicians to practice.

INSPECTION OF THE NORTHERN PRISON.

JOHN N. TAYLOR, M. D.

The Secretary of the Board and myself personally inspected the above institution in July last. We found the health of the inmates good, and that efforts were being made by the officials to maintain good sanitary conditions.

We examined the water and food supply, and found them sufficient in quantity and of good quality. We found, however, that the recommendations of the Board relative to the cleaning of night-buckets had not been carried out. The rep-

representatives of the Board, on the occasion of a former visit, had strongly recommended that the apparatus devised by Warden Patton of the Southern prison should be adopted and used, as it accomplishes the purpose for which it is intended very thoroughly, leaving no excreta or odors behind.

It is the opinion of the inspectors, however, that the night-bucket system should be abolished, and their use allowed only in case of absolute necessity. The keeping of dejecta in the cells all night, notwithstanding the fact that the buckets are placed in ventilating shafts, is highly objectionable. The substitution of well flushed water-closets to which the prisoners may repair, under guard, when necessary, would prove far better in every way.

The inspectors have still to record their objection to the prison hospital. Improvements have been made in its furnishing and surroundings, but, with the present facilities, the most objectionable features can not be remedied. For description, hospital, etc., see report of 1890. As affirmed in that report, the hospital should be in a building detached from all others, so that the freest ventilation may be had. No part of the building should be used for purposes other than hospital and accessory. It is surprising that, with the limited facilities at his command, the prison physician, can yet make as good a showing as he does. He does not hope, however, to be always as fortunate in the future as he has been in the past. In the presenee of an epidemic of even small proportions affecting the inmates, little could be done to stay its course. The necessity for such a hospital as hinted at above, built under the supervision of the State Board of Health, is imperative, and should be provided for at the earliest possible moment, and that before the authorities have been taught, by the loss of life, time and money, that the need should be supplied.

The inspectors would also recommend that as soon as the State can afford the additional expense, the stone cells now in use should give away to iron cages. The stone cells are necessarily damp, cold, and, to an uncertain degree, filthy, and this in spite of the best efforts of the officials to keep them otherwise. The iron cages, on the contrary, could be flushed out, dried and ventilated most thoroughly. The fact that prisoners might communicate one with another, does not present an insuperable objection.

The system of rewards and punishment (if so harsh a term may be used) now in operation might be brought to bear in prohibition of communication of prisoners in their cells, or night guards, walking the round of the cells, might see that it does not go on.

It is inhuman in the law to compel a man of tuberculous antecedents to occupy one of these stone cells. If his offense be small, and his sentence light, he may yet, in the short time he is to occupy it, develop the malady that will take his life in a year or two—this is visiting capital punishment for a minor offense.

The inspectors heartily commend Warden French for the reform he has instituted in the matter of dealing with the insane inmates.

Formerly some of these were kept in the closest confinement. Now, under proper supervision, they are allowed the liberty of the grounds.

On a former tour of inspection the Representatives were shown an insane man, caged in a narrow cell, perfectly naked from head to foot, his hair matted and his person covered with filth, raging and howling like a wild beast. This man the inspectors saw clothed decently, and walking briskly up and down a beaten path, with the gait and air of a pedestrian walking against time. They were informed that since allowed to so exercise he showed but little inclination to molest any one.

Under this improved management of the insane inmates there is but little reason why they should be transferred to the insane asylum of the State. The newer and better idea of incarceration is now gaining ground fast. That it is not in order to punish criminals, but to protect the public that men are put in prison, is now on its way toward acceptance by the christian world.

The word "vengeance of the law," "punishment of crime," etc., are likely to become obsolete terms ere many years. If this be so, then the chief reason for the outcry against the incarceration in prison of insane men will have disappeared. It will not do to mingle insane men, of criminal tendencies more or less pronounced, with other insane persons, and leaving out the idea of punishment and adopting the milder one of protection; there is no injustice done, and they will do just as well

or better where they are than in the asylum, as but little medicine is used in the treatment of the insane under the new method of dealing with such.

The inspectors found that the outlet to the new sewer, constructed at a cost to the State of nearly ten thousand dollars, has been completely destroyed. The immense weight of sand, through which the tunnel had been extended to the lake, had crushed in the tile casing, thus choking up the outlet and diverting the sewage into its old channel, reestablishing the former menace to the health and lives of the families living upon the banks of the creek in which the sewage of the prison flows on its way to the harbor.

Senator Hudson, a member of the legislative visiting committee which inspected the outlet at the commencement of its construction, protested at the time against the material used, and predicted the result which has followed.

If his counsels had been heeded much might have been saved the State. The last Assembly did wisely in placing the construction of public works under the supervision of the State Board of Health.

There should be some competent disinterested authority to pass on all such, in order that the best interest of the State may be taken care of, and not made to give way to that which should be minor considerations.

INSPECTION OF EASTERN INDIANA HOSPITAL FOR THE INSANE.

T. J. DILLS, M. D.

To the State Board of Health, Indianapolis, Ind. :

GENTLEMEN—I have the honor to report that upon August 28, 1891, I made an official visit of inspection to the Eastern Indiana Hospital for the Insane, located at Beaulieu, near Richmond.

The object of the visit was to procure accurate information touching the sanitary arrangements at the Institution and the

health of the inmates, with the view of laying before the State Board such recommendations on these points as might properly be considered by you.

It may be said in advance that Dr. S. E. Smith, Superintendent of the Hospital, had not been advised of my coming, and hence no preparation could have been made to place the Institution in a condition other than that which it presents at any other time.

The Hospital is situated two miles from the city of Richmond upon an elevated plateau. The ground is rolling, the soil alluvial, with a substratum of gravel, both conditions being excellent for surface drainage.

The Hospital is constructed on the "cottage plan" found so desirable in public institutions of this character. The buildings for the use of the inmates are two stories in height, as is also the administration building, which contains offices for the Superintendent and staff of physicians and other needed apartments.

A careful inspection was made of the sanitary arrangements of the sleeping rooms in all the wards, and in this matter the highest praise must be given. There were found grates in all the rooms, transoms over the doors and the most rigorous observance of the best measures to ensure good ventilation, abundance of sunlight and entire freedom from odors of all kinds. The beds are single beds, scrupulously clean, and the sanitary plumbing throughout the building is of the most approved kind.

The supply of water is derived from five driven wells, with an average daily capacity of three million gallons. The daily consumption is one million gallons. Water is pumped into an elevated reservoir and thence, by direct pressure, is led through the system of pipes, thus making the work of flushing closets and sewers easy and effectual.

The closets are kept clean and free from foul gases, and are fitted with the intermittent floating tank adjustment. There are 1,200 feet of 8-inch surface pipe which discharge into a running stream 200 yards in length, thence into a small creek which falls into White River a mile below the town. All soil pipes are of vitrified tile.

The pipes inside the buildings are of wrought iron.

No sewer gas could be detected in any part of the Institution and there was no suspicion of a vitiated atmosphere from any cause.

The closets, bath tubs and sinks were particularly inspected and their sanitary condition found to be perfect.

The illumination of the hospital is by incandescent electric lamps, sufficient in number and intelligently distributed, the result being very satisfactory.

From what has been said concerning the goodness of the sanitary regulations of the hospital an excellent report on the general health of the inmates necessarily follows. At the time of my visit there were but five cases of malarial fever. The male patients found in the Institution upon that day numbered 186; females, 171. Number enrolled, 208 males, 192 females. Admitted during past twelve months, 81 males, 64 females. Discharged, 19 males, and 12 females. The patients enrolled, but not at that time at the Institution, were on parole, either at their homes or elsewhere. The mortality for the past twelve months was 12 males and 14 females.

In conclusion I deem it proper to commend to the State Board of Health the careful and intelligent observance of sanitary regulations upon the part of Superintendent Smith and his assistants.

The most scrupulous cleanliness was everywhere observable.

To the people of the State, particularly to those who have friends or relatives at the Eastern Hospital, I offer the assurance that the care of the patients is in the hands of human and educated gentlemen who are enthusiastic in the performance of their trying duties.

NATIONAL CONFERENCE OF STATE BOARDS OF HEALTH.

SEVENTH ANNUAL MEETING.

To the Indiana State Board of Health:

GENTLEMEN—Your representatives who attended the seventh annual meeting of the Conference of State Boards of Health, held in the city of Washington, D. C., May 2 and 4, 1891, would respectively submit the following report of its proceedings:

FIRST SESSION.

The Conference was called to order Saturday, May 2, at 10 A. M., by J. N. McCormack, President.

Secretary C. O. Probst, was directed to call the roll, which developed the fact that twenty-one States and the Province of Ontario were represented by the following delegates:

Alabama.....	Dr. Jerome Cochran.
Connecticut.....	Dr. C. A. Lindsley.
Illinois.....	Dr. John H. Rauch.
Indiana.....	Dr. C. N. Metcalf.
Indiana.....	Dr. S. S. Boots.
Iowa	Dr. J. C. Shrader.
Kentucky.....	Dr. J. N. McCormack.
Kentucky.....	Dr. George Beeler.
Louisiana.....	Dr. S. R. Olliphant.
Louisiana.....	Dr. L. F. Salomon.
Maryland.....	Dr. C. W. Chancellor.
Michigan.....	Dr. John Avery.
Michigan.....	Dr. Victor C. Vaughan.
Minnesota.....	Dr. P. H. Millard.
Missouri.....	Dr. George Homan.
New Hampshire.....	Dr. Irving A. Watson.
New York.....	Dr. Lewis Balch.
New York.....	Dr. O. Donohue.
Ohio.....	Dr. C. O. Probst.
Pennsylvania.....	Dr. Benjamin Lee.
Rhode Island.....	Dr. Albert G. Sprague.
South Carolina.....	Dr. H. D. Frazer.
Tennessee.....	Dr. J. Bernien Lindsley.
Vermont.....	Dr. J. H. Hamilton.
West Virginia.....	Dr. N. D. Baker.
Wisconsin.....	Dr. J. T. Reeve.
Province of Ontario.....	Dr. P. H. Bryce.

The President then said :

Gentlemen of the Conference, I have the pleasure of introducing to you Mr. Douglass, President of the Board of Commissioners of the District of Columbia.

Mr. Douglass made a pleasant address of welcome to the delegates, in which he referred to boards of health as boards

of happiness, for their efforts are to promote the health of the community in order that every man may live out the full measure.

Washington, said he, is rapidly getting to be quite a scientific city by attrition and contact with the many scientific bodies that are making it their custom to meet in conventions here. This city has a new health ordinance compelling the placarding of houses where certain diseases are known to be.

At first this had almost caused a riot, but more recently a man had complained bitterly because his house was not placarded. This shows the progress of sanitary intelligence here.

Feeling sure that their Conference would result in the greatest good to the Society and to the country at large, Mr. Douglass again bade them welcome to the city.

After the address of Mr. Douglass the President said :

I have heard with pleasure the kind things Mr. Douglass has said. This is one of a number of meetings we have held in this city. We represent the official State organizations in our respective States. The growth of State Board of Health work has been very rapid. As you know, the first board was organized in 1869. Now there are thirty-two State Boards of Health in the Union, and measures are pending looking to the establishment of similar organizations in the other States.

Secretary Probst then remarked :

I have an explanation and apology to make in regard to announcing the local committee of arrangements, to whom we are very much indebted. Dr. Townshend, the District Health Officer, very kindly consented to arrange for this Conference, but, on account of the Doctor's illness, the matter was delayed until after our programme was issued. The local committee are Dr. Philip S. Wales, Dr. C. H. Demerest, Dr. Poole and J. C. McGinn, the Deputy Health Officer.

The President then announced that Dr. Bryce, of Toronto, telegraphed asking him to announce that it was impossible for him to get there until the afternoon, and requesting the postponement of the discussion of the first and second questions, in which he was interested.

It was therefore decided that the first question discussed should be the one proposed by the State Board of Health of Louisiana, which was as follows :

1. What are the requisites for a thorough system of quarantine and maritime sanitation in the light of present scientific attainment?

2. What are the best methods for the self-protection of individual States from the introduction of pestilence through States which have no adequate quarantine?

And in connection with this the question proposed by the State Board of Health of Alabama:

1. Given a vessel with cargo from Central or South America or the West India Islands, can such vessel and cargo be disinfected without discharging the cargo?

2. Can such cargo be disinfected thoroughly and without damage after it has been discharged?

The discussion of these questions was opened by Dr. Jerome Cochran, of Alabama.

QUARANTINE REQUISITES.

BY DR. JEROME COCHRAN, STATE HEALTH OFFICER OF ALABAMA.

I have undertaken to open the discussion on one of the questions submitted by the Louisiana State Board of Health, namely: What are the requisites for a thorough system of quarantine and maritime sanitation in the light of present scientific attainment? In accordance with the limitations of my own personal and experimental knowledge, I shall confine the discussion to a consideration of the best means for the protection of our gulf ports from invasion by yellow fever by way of the sea.

THE SOURCES OF OUR YELLOW FEVER EPIDEMICS.

Yellow fever epidemics have prevailed within the territorial limits of the United States since the Columbian discovery of America, in ninety-three different years. In eighty-one of these years we have had some evidence as to the sources whence it was derived, namely: From the West Indies, seventy-five (75); from Mexico, four (4) times; from Demerara, twice (2); from Honduras, once (1), and from Rio de Janeiro, once (1.)

From these statements it follows that the great sources of danger to us are the West India Islands, and amongst these islands the single island of Cuba and the single city of Havana have furnished us with the immense majority of our epidemics. I could give you the reasons why Havana is so exceptionally dangerous, but it would take too much time to undertake to do so on the present occasion.

The yellow fever which is brought us from Havana and other foreign ports is necessarily brought to us in water crafts of various kinds, all of which we may speak of, for convenience, as ships, and as an incidental consequence of our foreign commerce.

If we could prevent the infection of ships at the foreign port; say, for example, Havana, that would be the best possible solution of the problem of protection. We can not always do this with certainty, but we can do it even now to a considerable extent; and it is to be hoped that we will be able to accomplish more in this direction in the near future. It is certainly true, and I desire to call very emphatic attention to the statement, that the immense majority of the ships coming to us from Havana during the season of the year when yellow fever is most prevalent there are entirely free from infection, and hence, also, entirely free from danger. While this is a fact of great practical importance, it is one that seems to have attracted very little discussion, and it is therefore difficult to indicate what proportion of the whole number this majority actually is. From such data as I have been able myself to collect I am well satisfied that of ships coming into the Gulf of Mexico from the West India ports in epidemic seasons not more than one in twenty, at the most, is really infected, while in non-epidemic seasons the proportion is less than one to the hundred. I suppose that to many who have had much experience in quarantine work this statement will seem altogether incredible.

It is, nevertheless, beyond all question, substantially true; and it is very easy to see that its thorough-going recognition will materially influence the current practice of quarantine.

This comparative immunity of ships from Havana from the infection of yellow fever has been obtained for many years, and in the absence of any special effort to secure it. Of late years, however, we have had agents at Havana, and some other

ports, whose official duty it has been to inspect and certify to the sanitary condition and sanitary history of ships coming to this country. I regard this system of sanitary supervision of ships at the port of departure as extremely important, and as admitting of large development. Indeed, I do think that it is altogether visionary to forecast the time when the principle quarantine station for the protection of our gulf ports will be, not at New Orleans or Mobile, but in the harbor of Havana.

As we have seen the chances are many to one that any designated ship in the harbor of Havana will escape infection anyhow, without any special care being taken to that end. But it is possible to take a great deal of care to secure this immunity from infection, and with every probability that such care will be rewarded with a very large measure of success.

The plan, in this regard, pursued for several years by the Plant line of steamers running between Havana and Pampa, may be taken as a sample of this sort of work. These steamers are of iron, they have no bilges, and it is easy to keep them scrupulously clean. They go into the harbor of Havana after sunup in the morning, and leave it before sunset in the evening. They do not lie alongside of the wharf, but tie up to a buoy out in the bay. Only a single acclimated officer is allowed to go ashore, and only into the business part of the city where yellow fever is not apt to be found. And no suspicious passengers or freight is allowed to be shipped.

I do not undertake to say that these precautions guarantee complete immunity against infection. I know of no precautions of which that can be said. But I believe such precautions are of very great practical value, and more likely to keep a ship free from infection than the usual treatment at our quarantine stations is to make an infected ship safe again.

PRINCIPLES OF DISINFECTION.

Disinfectants, for the purpose of this argument, may be briefly defined as agents which destroy, or render innocuous, the zymotic poisons which generate epidemic diseases. Or, inasmuch as these zymotic poisons are universally held to be associated with the action of living germs, disinfectants, from another point of view, are such agents as destroy the vitality of disease germs.

It is extremely probable that the real toxic agent in the production of yellow fever is either a ptomaine, or a toxalbumin. But it is also extremely probable that human creatures very rarely receive this poisonous ptomaine, or toxalbumin in sufficient doses to produce an outbreak of the fever, except when it is generated within the system itself by the action of the living germ on some of the tissues or fluids of the body. At any rate, the practice of disinfection is based on the assumption that any agent which will kill the germs which generate the disease poisons will prevent the generation of the disease itself.

Hence we may say, very briefly, that disinfectants are germicides. The principal agents of disinfection are: (1) extreme cold; (2) extreme heat; (3) various chemical reagents; (4) cleanliness and ventilation.

The influence of heat and cold upon living creatures, and especially upon microscopic organisms and disease germs, is not at all uniform. Fritsch has shown that certain bacteridia in the micrococcus stage retain their vitality after congelation with carbon dioxide, that is to say, at a temperature of 70 degrees below zero of Fahrenheit's scale, or 102 degrees below the freezing point of water.

On the other hand, Dallinger and Drysdale have shown that the germs of certain monads are able to survive a temperature of 300 degrees above Fahrenheit's zero, or 88 degrees above the boiling point of water. In the mean time, fully developed bacteria and fully developed monads are destroyed, as a rule, at a temperature far below the boiling of water, namely, at 140 degrees Fahrenheit.

Of the morbid poisons which generate human pestilences very few have been subjected to direct experimental observation in regard to their capacity to withstand elevations and depressions of temperature; but it is generally accepted as well established that the heat of boiling water is sufficient to destroy the malignant energy of most of the septic germs generated in the human bodies, such as the poisons of pyæmia, septicæmia, gonorrhœa, syphilis, etc.

The contagium of vaccinia and the contagium of small-pox are also destroyed at the temperature of boiling water, and this temperature seems to be destructive of the germs of cholera and typhoid fever. The limits of the resistance of the zymotic

poisons to cold have not been much studied, and our knowledge in this direction is still very defective. It is known, however, that vaccinia and small-pox survive very great reductions of temperature. Small-pox, indeed, seems to be specially a disease of cold climates and of cold seasons of the year; and is hardly able to maintain itself at all against the protracted summers of our gulf ports. On the other hand, yellow fever is notoriously a disease of warm climates and warm seasons of the year; and the most dreadful epidemics are promptly checked by the advent of frost and winter weather. In the face of this broad fact, which is sustained by the unanimous testimony of many hundreds of epidemics, it is hardly possible not to believe that the yellow fever poison, or the yellow fever germ, can be destroyed by cold; and if it can be destroyed by the natural cold of very mild winters, it would seem to follow that it can be destroyed, also, by cold artificially produced. The cases, so much discussed, of the Susquehanna and the Plymouth, have thrown some shadows of doubt across the minds of many sanitarians as to the soundness and universality of this conclusion.

It seems to me, however, that it is more reasonable to believe that there is some undiscovered fallacy in these cases, than it is to believe that the uniform experience of centuries has in this matter led the whole world astray.

While the yellow fever poison is thus sensitive to cold and intolerant of frost, and while it flourishes most in tropical countries and in summer weather, experience warrants the statement that very high temperatures are just as fatal to it as very low ones. It is very safe to say that it is not able to withstand either wet heat or dry heat at 250 degrees Fahrenheit; and the heat of boiling water, 212 degrees is probably quite sufficient for its destruction.

The list of chemical disinfectants is quite a long one, but for quarantine purposes it is only necessary to mention two of them, namely, sulphur dioxide and mercury bichloride.

Sulphur fumigation is one of the most ancient methods of disinfection. It was employed by the much planning divine Ulysses, a thousand years before the beginning of our christian era, to purify the hall of his palace at Ithaca, which had been made foul by the carcasses of the slain suitors of the prudent Penelope. The disinfecting power of sulphur fumes has been

called in question of late years, but the range and limits of its application are now, thanks to the labors of the committee on disinfectants of the American Public Health Association, quite accurately defined. Mixed with atmospheric air to the extent of one or two volumes per centum it destroys the vitality of vaccine virus. I think there can be no doubt of its efficacy against the poisons of measles, small-pox, and scarlet fever; but I would like to use it in atmospheric mixtures of much greater strength than one or two per centum, say from five to fifteen volumes per centum. In brief, it is probably fatal when properly used against all nonspore bearing bacilli, while it can not be depended upon for the destruction of the spores of the pathogenic bacilli, such as those of anthrax and malignant oedema. The presumption is that the germ of yellow fever does not produce spores, and that the sulphur dioxide is competent to effect its destruction. The sulphur strength of the atmospheric admixture, and the length of exposure necessary to this end we do not know; and in the absence of such knowledge, prudence dictates that the sulphur dioxide should be used in abundant quantities, and that the exposure should be protracted.

Of mercury bi-chloride I need say very little. Its germicidal power is very energetic, except the presence of albumen, and its use is not attended with any special difficulty.

The importance of cleanliness and ventilation is so generally recognized that I need do no more than to mention them.

QUARANTINE OUTFITS.

In order to determine what sort of a quarantine establishment is needed for the protection of any of our gulf ports, it is necessary that we should know approximately a good deal about the commerce of the port in question; such details, for example as these that follow:

1. The number of vessels coming into the port during the quarantine season from ports infected with yellow fever, and especially from Cuban ports so infected.
2. The number of vessels constructed of wood, and the number constructed of iron, and whether sailers or steamers.
3. How many come with cargoes, and the nature of such cargoes.

4. How many ballast, and the nature of such ballast, whether rock ballast, or sand ballast, or water ballast, or ballast of some other sort.

5. How many of the ships bring passengers; and how many passengers, and what sort of passengers; whether acclimated or unacclimated, and whether cabin or steerage passengers.

The sort of information here indicated can be always easily obtained; and it is easy to see that the quarantine requirements of a port in which the arrivals of ships during the quarantine season amount to several hundred, would need to be projected on a very different scale from the quarantine requirements of a port in which the arrivals number only a few dozen. Wooden ships, under sail, in ballast, without cargoes, with acclimated crews, and without passengers, such as frequent so many of our gulf ports to take away lumber and naval stores, require very different treatment from iron steamers, with valuable cargoes, and numerous unacclimated passengers.

From another point of view, ships may be divided for quarantine purposes into those coming from infected ports, indeed, but with clean bills of health and no history of infection, and in regard to which the presumption is that they are not dangerous; and those without clean bills of health, or with a history of epidemic disease during the voyage, or which for some reason are vehemently suspected of infection; and these two classes of ships require very different treatment.

In regard to ships of the first class there is twenty, thirty, forty to one that they are free from danger. Nevertheless it is considered to be expedient to disinfect them with more or less care, with the hope of providing against all contingencies and of rendering safe the very small percentage that in spite of appearances may, perchance, be the carriers of infection. The large majority of our quarantine stations are intended to deal exclusively with this class of vessels.

Ships of the second class, those that are known to be infected, or that are vehemently suspected to be infected, are treated with much more rigor, and for them separate stations have been constructed, where an abundance of time is taken, and all the resources of disinfection are exhausted in the effort to make them safe again before they are restored to commerce.

There is only one port on the gulf coast where this dangerous class of vessels is treated by the local quarantine authorities, and that is New Orleans, which city has two separate quarantine stations near the mouth of the Mississippi river, one for the treatment of vessels belonging to the first class, and one for the treatment of vessels of the second class. Pensacola, Mobile and other smaller gulf ports send ships of the second class to the national quarantine station at Chandeleur.

For convenience we call these two classes of quarantine stations, respectively, inspection stations and refuge stations. I may be pardoned here for recalling attention to the fact that the establishment of refuge stations grew out of a recommendation made by me to the National Board of Health in 1879. The outfit of the refuge station need not differ much from the outfit of an inspection station, except in the provision of hospitals and ware-houses; but it would astonish any one but a quarantine expert to know how very small is the extent of hospital and warehouse accommodation that is needed at a gulf refuge station. At an inspection station of course the need is still less, and most inspection stations in the gulf can get along very well without any provision in the way of hospitals or warehouses either.

The inspection station takes charge of ships that are presumed not to be dangerous, and the aim of such stations is to treat these ships in such a way as not to occasion any considerable delay, and as not to involve any great cost in such a way; in other words, as not to throw too much embarrassment in the way of commerce. I do not hesitate to assert that a quarantine detention of ten days at any gulf port would act as an absolute embargo on the commerce of such port with all tropical countries subject to yellow fever; and I will assert further that a detention of five days at quarantine is more than our West India commerce and travel can very well bear. For Havana steamers any detention of more than a few hours is found to be burdensome. The disinfecting work at our inspection station must be done speedily. At the refuge stations the period of detention may be as extended as you please, in the case of the sick, until their recovery; in the case of the ship and its cargo, whatever time may be considered necessary for their purification. If the ship is empty, all that is possible in the way of disinfection can be accomplished in a few days. If

there is a cargo to be treated then the character of the cargo has to be taken into account. In the meantime there is no theoretical reason why a ship should not be disinfected as speedily at a refuge station as at an inspection station. If the methods employed at the inspection station quarantine the subsequent immunity of the ship from danger, why should not the same methods secure such immunity under all circumstances? Still the practice is as I have stated it to be.

In projecting a scheme of quarantine, the first problem to be settled is whether the disinfecting apparatus shall be carried to the ship at some convenient anchorage, or whether the ship shall be brought to some wharf where the disinfecting apparatus is stationed.

A few years ago the rule was to treat the ship at the quarantine anchorage. The rule now is, since the introduction of what is commonly called the improved quarantine system, to bring the ship to the quarantine wharf.

The agents of disinfection are the same in both systems, namely: 1. Ventilation. 2. Cleanliness. 3. Sulphur fumigation. 4. Flooding with mercury bi-chloride solution. 5. The application of dry and wet heat. These agents are applied to the disinfection of the ship, to the disinfection of the ballast, to the disinfection of the cargoes, and to the disinfection of the baggage and bedding of the passengers and crews. It is necessary to make a few remarks under each of these heads.

1. The disinfection of an iron steamer, without bilges and without cargo, can probably be accomplished with tolerable certainty by sulphur fumigation and flooding with the mercury bi-chloride solution

If we have to deal with a wooden ship with two skins, foul bilges and sodden timbers, the problem is much more difficult, and it has been generally believed the foul bilges themselves are apt to come infected, we are warranted in doubting whether the disinfection can be successfully accomplished at all, unless the inner skin is removed and the accumulations of filth in the bilges removed by scraping. I have known yellow fever to break out again in a few days in a ship of this sort, where great labor had been expended in the effort to make her safe.

2. Very few outbreaks of yellow fever have been traced to infected ballast; but cases enough have occurred to render the ballast suspicious. Clean rock ballast might, perhaps, admit of

disinfection without removal from the hold of the vessel. But when dirt ballast is encountered, packed hard for a depth of several feet, prudence would require its removal. This is not always so simple a thing as many might imagine. The ballast is necessary to preserve the stability of the ship in the water. It can not be removed safely while the ship is at anchor, and if foul ballast is removed other ballast must be put in its place. With water ballast the problem is, of course, easy.

3. I think in the large majority of the cases we have to deal with the disinfection of cargoes without removal from the ship, is impracticable. For any effort in this direction we would have to depend almost exclusively on the sulphur fumigation, and I doubt if it could be efficiently applied. It is hardly worth while to inquire whether cargoes can be successfully disinfected after removal from the ship, because any such practice as this would require so much expense that commerce would not submit to it. Fortunately cargoes are very rarely infected.

4. Baggage and bedding are the most dangerous of all fomites that come to us in ships. It is therefore fortunate that their disinfection is comparatively easy. The rough baggage of crews can be boiled in simple water, or in bi-chloride solution, and subjected to fumigation. The finer fabrics, belonging to the better class of passengers, are a little more difficult to deal with, because they are liable to suffer serious damage if subjected to any of the methods suggested.

It is in regard to this class of goods, that the use of dry heat in the steam cylinder may be employed. But even this method sometimes does considerable damage. Besides when large quantities of baggage in piles and bundles are treated in the cylinder, the heat is not always sufficient to guarantee the destruction of all the disease germs. I suppose a good many of those who hear me have been surprised that all I have so far said about the improved quarantine methods, so much talked about of late years, had been an incidental allusion. I have not cared to discuss at length these improved methods, because I believe their value as compared with the older methods has been greatly exaggerated.

The same identical agents of disinfection are employed in the old system that are employed in the new, and the only important consideration is that their application shall be as thoroughly as possible. I am sure that the atmosphere of a ship's

hold can be impregnated with just as large a percentage of sulphur dioxide by the old method of burning the sulphur in pans as by the new method of burning it in the furnaces outside of the ship, and it does not take any more time.

I am sure that the holds and decks of ships can be just as thoroughly deluged with the mercury bi-chloride solution by the use of tubs and buckets as by the use of an elevated cistern and hose pipe.

And I am sure that all rough textile fabrics can be as completely disinfected by thorough boiling in common water, or after soaking in the solution of the mercury bi-chloride, as in the steam cylinder. It is only in the treatment of the finer fabrics, as already explained, that the steam cylinder plays a part of special importance.

Nevertheless I would favor the adoption of the newer methods by all ports that are able to bear the expense. They are more elegant, more convenient, and impress to a much greater extent than the old ones the imagination of everybody concerned.

The President. The discussion will be continued by Dr. Olliphant, President of the State Board of Health of Louisiana.

Dr. Olliphant. MR. PRESIDENT AND GENTLEMEN:—The discussion which I have been selected to open is on the interesting question proposed by the State Board of Health of Alabama:

First. Given a vessel with cargo from Central or South American ports or the West India Islands, can such vessel and cargo be disinfected without discharging the cargo?

Second. Can such cargo be disinfected thoroughly and without damage after it has been discharged?

The subject matter of these questions is so intimately connected with the first question submitted by the State Board of Health of Louisiana that in discussing the former it is impossible to avoid entering very fully into a description of what the Board of Health of Louisiana believes to be at least part of the "requisites for a thorough system of quarantine and maritime sanitation in the light of present scientific attainment." The gentlemen who have been so happily chosen to open the discussion of the questions submitted by the Board of Health I have the honor to represent will certainly appreciate this necessity and understand that there was no intention to attempt to create prejudice for or against their views on the subject.

New Orleans may, without presumption, be said to be the port in this country that has afforded the greatest practical experience in the disinfection of vessels and cargoes from dangerous points in the countries named in the first question, and it was doubtless with the intention of eliciting information as to the results of this experience that one of the representatives of the State of Louisiana was chosen to open the discussion.

It is almost superfluous to state that I am here to sustain the affirmative side of this discussion; at any rate, as far as the first question goes. It is a matter of almost daily occurrence every summer for vessels with cargoes from the countries named to be disinfected at the quarantine station on the Mississippi river without discharging any part of the cargoes, and without damage to the vessels or the goods they carry.

It is true that when the State Board of Health of Louisiana, under the able lead of my predecessor, Dr. Joseph Holt, undertook to replace by a system of scientific and efficient disinfection the old brutal and haphazard quarantine methods that still prevail even to-day in many alleged civilized countries and communities, mistakes were made that resulted in more or less damage to the vessels and cargoes, but this was almost inevitable under the circumstances, and in few cases did the damage reach important proportions.

The danger of damage being done in the process of disinfection is now practically nil, and does not need to be considered in connection with the system under which we operate.

Of course a certain class of cargoes can not be disinfected by any known process whatever without utter destruction to the articles handled, but the only cargoes of this nature that we find coming from the countries under discussion are bananas, pine apples, oranges, limes, etc., and it seems to be conceded that while the vessels carrying these fruits may bring in disease, the fruits themselves are not to be dreaded as possible germ conveyers.

The cargoes from the countries named in the questions, that are looked on as probable germ carriers, and that can be thoroughly disinfected on board of ship without damage, consists of coffee, sugar, tobacco, woods, rubber, hides, bone, etc., and in some cases the vessels have baled, boxed, and other goods loaded in Europe and carried around by way of the West Indies and Central America, that naturally come in contact, more or less,

with the articles taken on board at the dangerous points visited on the way.

This is the class of cargo that is presumably referred to in the questions propounded, and I state, as a fact, that we can and do disinfect vessels and cargoes of this description at the Mississippi River Quarantine Station without discharging any of the goods, and without damage to ship or cargo.

It is true that we land the clothing and bedding of the crews and passengers, and all the movable textile fabrics on board the ships, and treat these articles on shore, but they can not properly be classed with the cargo, and the handling of them is accomplished with very little extra expense and probably no extra delay. In fact, with proper appliances and thorough system, the disinfection of the articles so landed can be carried on simultaneously with the treatment of the vessels and cargo.

We have every reason to believe that our disinfection now is thorough in every detail, but it is not possible to make this assertion with absolute certainty.

It will doubtless be conceded that the clothing and bedding of the crews and passengers are the most dangerous character of fomites. It will therefore be appropriate to consider in the first place the process of disinfection which these articles are subjected to.

Heat efficiently applied is universally recognized as the disinfectant par excellence. It is this agent that we have recourse in treating the clothing and bedding, etc., from vessels that come within the scope of the questions under discussion.

The articles to be disinfected are hung on racks suspended inside large iron cylinders, through which run numerous coils of pipes which convey from a steel boiler the heat necessary to raise the temperature in the cylinders to 210 degrees F. of dry heat, when steam is allowed to rush direct into the cylinders, rapidly raising the temperature to 230 degrees F. of moist heat, at which figure it is kept for at least half an hour with pressure on the cylinders of about seven pounds to the square inch.

I call special attention to this statement because Dr. Cochran doubted very much whether or not the heat permeated thoroughly the articles subjected to it.

Dr. Cochran. I had in mind especially the experiments made by Dr. Kinyoun. You say seven pounds to the square inch. Do you mean seven pounds above the fifteen pounds?"

Dr. Olliphant. We have valves connected with this cylinder that blow off at seven pounds pressure in excess of the fifteen pounds normal air pressure.

The articles are thus subjected to a heat of from 210 degrees to 230 degrees F. for a total period of nearly one hour, and it is found by actual experiment that under this pressure thermometers imbedded in the center of pillows and mattresses indicated the same temperature as that of the cylinders, proving conclusively that the heat penetrates thoroughly all articles exposed to its action.

Some years ago the U. S. Marine Hosp. Service, upon invitation of the Louisiana State Board of Health, commissioned Dr. Kinyoun to investigate and report upon the efficiency of maritime sanitation as practiced at the Mississippi Station at that time. Although the means of application were then far inferior to the present arrangements, Dr. Kinyoun's report showed that this step in our methods of disinfection was very certain in action, and destructive to most germs that were submitted to this test.

If then it was so very effective at that time, we are justified, with our improved appliances, in claiming to-day absolute efficiency, and believe, were Dr. Kinyoun's experiments now repeated, the result would justify the claim.

[In support, see page 267, Reports and Papers of the American Public Health Association, Vol. 11, in which Dr. Sternberg states that steam at a temperature of 230 degrees F., maintained for a period of one or two minutes, or of 222 degrees F. maintained for ten minutes, will infallibly destroy the spores of bacilli which constitute the most difficult test of disinfecting power known.]

At the same time that this heat disinfection is being applied a force of men is engaged with mercuric chloride solution in washing down decks and cabins, and sprinkling all articles that would be damaged by heat disinfection. This solution is made of a strength of 1 to 1,000.

There is no special skill required in its application, care as to thoroughness being the main point to be considered. This solution is contained in a tank of about 7,000 or 8,000 gallons capacity, placed at an elevation of about forty-five feet. The tank is connected with pipes leading along the wharf. By means of rubber hose with nozzle and spray attachments, a

stream of the solution can be conducted and thoroughly applied to any and all parts of a ship.

As this process of disinfection is claimed to be efficient, we will now consider the last step, *i. e.*, the fumigation of a ship's hold and cargo with sulphur di-oxide.

It is apparent, if reference is made to the report of Dr. Kinyoun, that his experiments were not very flattering to this process as practiced at that time. But with the improvements made since then we believe this portion of our service has been made to equal if not excel the efficacy of our other methods.

Formerly the SO_2 generated was obtained by the combination resulting from the voluntary combustion of the sulphur in a furnace to which oxygen was admitted in unlimited quantity.

Dr. Cochran in his paper made the statement that the old methods—I do not refer especially to methods immediately preceding the present system—suffice for the purpose of saturating the hold of a ship with SO_2 gas as well as any that have been devised since.

It is a well known fact that combustion can not take place in an atmosphere with one-half its oxygen replaced by SO_2 —such an atmosphere would extinguish combustion. That being the case, it can readily be seen that by former methods a 10 per cent. gas was the highest possible attainment. As a matter of fact, tests showed from 4 to 8 per cent. in our former system, which is claimed to be superior to the pot system. With this weak gas introduced into the large volume of air contained in the hold of a ship, it can readily be imagined to what degree of dilution it would be subjected, and what length of time would be required to replace or saturate the ship's air by pouring this weak gas into it. I am asked by what authority I make the statement that an atmosphere containing 10 per cent. of SO_2 will extinguish combustion.

If the Doctor will allow me, probably I would as well make the statement now as on the completion of this paper. I give Dr. Albrecht as my authority, and the following test in corroboration:

On the completion of our new furnace I was naturally solicitous, considering the short lead of pipe to hold of ship, as to whether or not we ran risk of setting fire to a vessel. Dr. Albrecht assured me of the impossibility of combustion in an

atmosphere with one-half its oxygen replaced by SO_2 gas. Having tested the gas, and knowing it to be stronger than 10 per cent., we made the following experiment: A hogshead filled with shavings saturated with coal oil was set on fire and the gas played on it. The voluminous flames were almost instantly extinguished. On examination afterward it was found that even the oil on the shavings had not been consumed. This proved conclusively to my mind the statement made by Dr. Albrecht.

With the improved apparatus now in use, we consume almost all the oxygen in the air supplied to the furnace, and generate a gas of from 15 to 20 per cent. strength. We also favor the displacement of the air contained in a ship's hold by introducing this gas, twice as heavy as the atmosphere, into the bottom of the ship and at the same time exhausting the foul air contained in the ship through a pipe connecting with and tapping the ship's hold almost flush with the deck. By this means we lessen the dilution of our SO_2 gas and favor the displacement of the atmosphere; at the same time we are passing this supposed infected air over our heated sulphur in the furnace at a temperature of about 600 F., literally consuming all organic matter, and converting almost the entire oxygen into sulphur di-oxide. Certainly the atmosphere passed through the furnace is most thoroughly disinfected, both by heat and SO_2 , and we believe by the length of time devoted to a ship's hold, that most, if not all the air contained therein, has passed through this ordeal.

Any particles of contaminated air that may possibly have escaped the force of our suction current from the ship we believe will be relieved of all living organisms by its oxygen being materially diminished and replaced with the deadly SO_2 gas; practically an atmosphere permeated with SO_2 to the extent of 10 per cent. is considered germicidal.

With our present apparatus we are confident we easily obtain that degree and even stronger.

Our apparatus consists of a boiler-like cylinder containing one or more pans, arranged one above the other with air spaces connecting them alternately at the front and back, whereby the air is made to pass over the contents of all the pans. Underneath the cylinder is a furnace arranged in the same manner as for steam boilers, with ash pan, etc., which furnace serves to

keep the sulphur in the first pan in a molten state and the heat from this pan melts the sulphur in the pan above. An air-tight pipe from the hold of the vessel to be fumigated, is connected with the furnace immediately over the surface of the bottom pan to supply oxygen for the generation of the sulphur di-oxide.

This pipe is provided with a cock for obtaining samples of the air, and a valve for regulating its supply to the furnace. An eleven-inch discharge pipe taps the furnace at the top, curving over, leads down into and within six inches of the bottom of a reservoir. From the reservoir the gas is drawn by a "Sturtevant Fan" through an eight-inch pipe, issuing from the side of the reservoir, but having a curved section on the inside reaching nearly to the top, and is forced through a lead of pipe, extending through the roof of the tug to the pilot-house, and thence to the bottom of the ship's hold. It will thus be seen that, as the gas entering the reservoir is lead nearly to the bottom of the reservoir and having to leave again through the curved section of pipe near the top, the direct current is broken and any particles of burning sulphur that may enter are apt to be lodged at the bottom. The difference of size of pipe of entrance and exit is made with a view of having a slow current in and from the furnace to the reservoir through the fan; this result naturally following as the same amount of gas must necessarily leave the reservoir through the small pipe as comes in through the large pipe, thereby allowing longer contact of air with the surface of the sulphur.

You will observe we now have a connection between the compartment to be disinfected and the furnace, by which we can keep up a continuous current without the admission of any air from the outside world.

After charging the pans with sulphur, the furnace is closed and the fire started in the box underneath. In a few minutes the sulphur is in a molten state—not burning, because it has no oxygen supply; then the fan is started, driving a current from the reservoir into the hold and producing a return current in second pipe from the hold to the furnace. We now have the apparatus in full operation, drawing the foul and infected air from the ship's hold into the furnace, literally burning it and converting its oxygen into SO_2 , and sending this deadly gas to the bottom of the ship.

I believe with the above appliances ships with the ordinary cargoes can be and have been thoroughly disinfected without discharging cargoes. Cargoes thus disinfected in the hold of a ship can be similarly treated when removed to a compartment specially prepared for the purpose, but this procedure would entail extra time, labor and expense, and not render the service any more efficient.

From a practicable standpoint one can conceive of particular kinds of cargoes, rags, baled goods, etc., that would not be thoroughly disinfected by the methods mentioned. Even these could be disinfected by proper exposure to our agents, but as such exposure would not be practicable, this class of goods is not brought to our port in quarantine season from the countries named in the questions under discussion.

I think Dr. Cochran did not understand one or two statements in my paper—one of which is in regard to the generation of the sulphur gas. The doctor makes a statement that according to my own paper I would have to admit that we could only generate a gas of ten per cent.

Dr. Cochran. Undoubtedly, if you draw the air out from the hold of the ship.

Dr. Olliphant. If the doctor will understand, my original statement was that an SO_2 gas can not be made stronger than 10 per cent. by burning sulphur in the atmosphere. We do not claim to generate this gas in that manner. The sulphur is kept in a molten state by a fire underneath the pan, and oxygen or air is supplied simply for chemical combination. Surely, sulphur in a molten state is in the most favorable condition for chemical union with oxygen, and it is believed that a supply of air properly regulated will be deprived of nearly all its oxygen, which latter is converted into SO_2 gas. As a matter of fact, we have by actual test obtained a gas of 18 per cent.

Dr. Cochran also expresses his doubts, in the absence of facts, as to whether this gas, let down into the ships at one point, would permeate the whole ship.

All large ships are divided into compartments and such compartment is fumigated.

Dr. Holt, with a view to removing just such doubts, placed vessels containing water at the most remote point from the entrance of the gas in the hold of a ship loaded with coffee,

covering these vessels with sacks of coffee, and after the completion of the fumigation this water on examination, proved to be strongly impregnated with sulphur. I propose making further experiments the coming summer.

As to the impracticability of thoroughly disinfecting baled goods, I agree with the doctor fully, but it is to be remembered, as I stated in my paper, no such goods are shipped from intertropical ports to our port during quarantine season.

As to the damage done to textile fabrics in heat disinfection, I will state that the most delicate silks and laces have been subjected to this process without being injured in the least.

Regarding the question of ballast I will state that our Board, recognizing the impossibility of disinfecting earth-ballast, has prohibited the bringing of such ballast from effected ports.

Dr. Salomon. Mr. President and Members of the Conference: I have been requested, by Dr. Olliphant, to continue the discussion of this subject, and will ask your attention for a few moments.

The question as to what constitutes a thoroughly efficient system of quarantine, offering the greatest assurance to seaports subject to invasion of epidemic disease through their commercial relations with infected foreign ports, having been discussed, and it being admitted that the methods in operation in Louisiana meet the requirements and guarantee a reasonably certain protection, it necessarily follows without argument, that seaport towns not pursuing such methods while allowing intercourse with infected places, not only do not protect themselves, but expose other and adjoining States to the liability of invasion by disease.

The liability may be remote, it is true, still it exists, and existing, it becomes a matter of serious consideration what measures should be adopted by the several States to protect themselves without causing conflict and disagreement, which never result in good.

It is to be regretted that no successful effort has yet been made to solve this problem of self-protection; and it is with this object in view that the question has been propounded, in the hope that this Conference will be able to arrive at a conclusion whereby all interested States will be able, through their duly constituted health authorities, to act in harmony, by means of a common understanding as to the needs of each.

It is not our intention to reflect upon the good faith or proper vigilance of any particular State; and while granting to each the right to act as it sees fit in the matter of quarantine protection, and the adoption of whatever measures may be selected, and by it considered adequate to meet the needs of proper sanitary protection, we still claim the same right of refusing to recognize such methods as offering a guarantee of protection if the system in vogue does not meet all the conditions considered essential to a thorough, efficient and modern quarantine service, or system of maritime sanitation at ports of arrival.

In the exercise of that right, therefore, it necessarily follows that we seek for the best means of preventing the introduction of pestilential disease through other ports, when our own ports are provided with what we deem adequate methods of protection and while so doing, leave without question to each State to provide its own methods of quarantine; but say that others should not be the means of inflicting us.

We of the State of Louisiana, foremost in the matter of quarantine improvement, believe with our complete methods of fumigation and disinfection of vessels, cargoes, baggage and ships' effects, coupled with a reasonable period of detention of passengers and crews after the work of sanitation is completed, that we provide all that can be done in the way of keeping out pestilence; and if the health authorities of other States do not deem this sufficient for their protection from invasion through Louisiana, it is their duty to protest, and, failing to secure a better guarantee of safety, to adopt such measures as become necessary to defend themselves.

We claim the same privilege.

For several years after the epidemic of 1878, which scourged the Mississippi Valley, and which found its way to this country through New Orleans, the other States exposed to the direct danger of another visitation expressed their want of confidence in the efficacy of the methods then in vogue in Louisiana, and adopted such measures as they thought best for self-protection.

This want of confidence and a desire for greater assurance of safety, gave rise to the National Board of Health, through whose officers and inspectors such measures were instituted as satisfied the doubts of complaining States, and through traffic went on uninterruptedly.

But for reasons which it is necessary to mention at this date, Congress deemed it wise to take away the powers of said Board and leave to each state its own methods of protection:

I refer to this, not for the purpose of reviving any of the former arguments either for or against the National Board, but only to direct attention to the fact that Louisiana, at one time showing itself derelict, other States sought and found means which at the time satisfied them to a reasonable extent.

The same conditions as then existed at all the Gulf ports, exist to-day as to some of the ports on the Atlantic and the Gulf of Mexico. A few have, at an enormous expenditure of money and incessant effort at improvement, provided themselves with quarantine disinfecting plants of modern construction; some, during the danger period maintain strict non-intercourse, while others offer no protection at all or their methods are inadequate; and it is as to our relations with these two latter that we are particularly interested and ask the deliberations of this Conference as to what is the best course to pursue.

We claim that such ports should not be allowed to give free entrance to either freight, baggage or persons whereby the least risk of infection is incurred, as it is in such through traffic that great danger lies, and against which we protest.

While Louisiana with its efficient quarantine system and untiring vigilance is seeking to protect itself through its own ports of entry, it is ever anxious lest through other ports it may be visited with yellow fever from Havana or small-pox from Mexico.

And if we are to be exposed in such manner, where, I may ask, is the necessity of our own methods with their delay and consequent cost to commerce.

While imposing a detention on shipping after thorough disinfection, said detention being for observation, and thus providing a time for allowing the development of disease before giving a vessel pratique, we seriously and emphatically protest against a person being allowed to come to New Orleans from Havana in less time than that occupied in undergoing surveillance at our quarantine station when coming direct.

It is with the greatest gratification that we learn of the recent improvements in the quarantine service at Tampa, Fla., but Tampa is one of many ports of entry in the vast peninsula of Florida, and through many of these ports passengers with their

baggage can and do come to New Orleans within three or four days of the time of leaving Havana, and it should be the duty of the Board of Health of that State to provide the necessary safeguards against the introduction of disease.

True, an effort is being made in this direction. A boat has been put in service to patrol the coast, and this will, to some extent, prevent illicit intercourse, but not entirely so, and therein lies our source of danger.

Another, and what we consider a more serious source of danger, and one against which Louisiana has protested, is the inadequate system at Tampa. It is a matter of history that persons, for the purpose of evading detention at the Mississippi River Quarantine Station, have taken ship at Havana, landed at Tampa, and come through to New Orleans in three days or a little over. True, they were admitted upon certificates from the health officer at Havana and their baggage disinfected, but we claim that there is not only a possibility, but a probability, that the health officer can be deceived as to the acclimatization of such persons, with the risk of attending results.

Again, persons destined for points north of latitude 38 degrees and 54 seconds can go from Havana to Tampa without further question than as to their apparent destination, and with their baggage coming from a probably infected quarter, go through without detention or disinfection and proceed, if they so will, to Mobile, Memphis, New Orleans, or other points, open such baggage in some boarding house, hotel, or private residence, and thus expose the community to the liability of infection of yellow fever.

During what is considered with us the danger period of last year the Board of Health of the State of Louisiana protested against being thus subjected to the danger of epidemic which we were using our means and energies to keep away, and this protest failing of securing any change, we adopted measures which we thought best for our protection. The health authorities of Florida were notified that we would not allow any persons coming under the above mentioned conditions to enter Louisiana without disinfection of their baggage, or if baggage had been disinfected at Tampa, without undergoing a detention for observation such length of time as would assure safety to the community.

Railroads were notified not to carry such passengers into Louisiana, and that if such were found they would be taken from the trains and sent to the nearest quarantine station.

Florida took umbrage at this action, and it was charged that Louisiana had proclaimed quarantine against Florida. Not so. Louisiana was simply endeavoring to enforce its own regulations against passengers and baggage from Havana. It is a difference of small import whether passengers come to New Orleans via the Mississippi River or via Tampa. The resulting danger is the same, and we proclaim the right to prevent such travel without proper and necessary sanitary precautions, by whatever route it may come.

Therefore, I repeat, we did not quarantine persons or freight from Florida, but we did say, that through the assistance of Florida's regulations, persons should not violate our own quarantine regulations against Havana.

It was, and is still, far from the intention of Louisiana to provoke controversy with Florida. We simply ask that she shall not expose us through a lax system. If the State of Florida alone were to receive such passengers and retain them within her borders, we should enter no word of protest, but be ever vigilant for the first spark of danger. But when they can come to us without having undergone what we consider proper and efficient sanitary treatment, we protest and endeavor to prevent.

In view of all the foregoing we come to this conference asking the question propounded, seeking advice or suggestion if our views are not concurred in, and requesting an expression through resolution or otherwise whereby this vexing problem may be solved in the interest of harmony between State health authorities, and for the better protection of the people with whose safety from pestilential disease we are charged.

The President: The next subject for discussion will be the question proposed by the State Board of Health of Ohio:

1. Should State Boards of Health have control of the sanitary arrangements of all school buildings to be erected within their boundary?

2. What is the best plan to secure such control?

Discussion opened by Dr. Louis Balch, of Albany, N. Y.

Dr. Balch took the position that local Boards of Health, and not State Boards, should control and look after the sanitary

arrangements of school buildings. He gave many examples to show the difficulties a State Board would meet with in attempting to remedy the evils connected with school buildings.

Dr. Probst: Dr. Balch has mistaken the drift of the question proposed by Ohio. He has confined his remarks to school buildings already erected, and to the various nuisances arising in school life.

It is the school buildings to be erected that we would urge should be under the control of some central authority. This need not necessarily be the State Board of Health, although it is to be supposed that this Board will better understand the sanitary requirements of school buildings than any other. In our State the matter of erecting school buildings, and the ventilation, heating and lighting of the same, is left entirely in the hands of the school boards of school directors—men often guiltless of any knowledge of sanitation or the sanitary requirements of school buildings. Especially is this true of the smaller towns and country districts. It has seemed to us that it would be advisable to require the plans of all school buildings to be submitted to the State Board of Health, or some other State authority, and to have its approval before allowing the buildings to be erected.

As for the inspection of school buildings already erected, our laws require our local Boards of Health to do this semi-annually, and we would not wish to have this changed.

The question was further discussed by Dr. McCormack, Dr. Balch and others.

Adjourned until ten o'clock Monday.

SECOND SESSION.

The President announced as the first order of business for the second day the discussion of the question proposed by the State Board of Health of Kentucky: What should State and local Boards of Health teach, and what should they do to prevent consumption? Dr. Bryce opened the discussion by reading the following paper:

HOW CONSUMPTION IS SPREAD, AND MEASURES FOR ITS PREVENTION.

DR. P. H. BRYCE, M. D., SECY. PROV. BOARD OF HEALTH OF ONTARIO.

In view not only of the fact of consumption being of all causes the one producing the greatest number of deaths in temperate climates, wherever settlement is advanced, but also because of public attention having recently been specially directed to the experiments whereby it was hoped Dr. Koch had obtained a sovereign remedy for the disease spread over the known world, it is proper that we should anew point out the paramount importance of the public realizing the nature of the conditions under which, in every day life, the disease gains a foothold in the individual, and of how people generally, can do much to lessen the dangers to which they are exposed.

1. *History of the Disease.*—Consumption means a wasting or consuming of the physical organism, and owing to this, received the Greek designation: phthisis—a wasting. Owing to little nodules, or tubers appearing in the lungs and other tissues of the body, it has been called tubercle, and is now scientifically designated tuberculosis.

The real nature of the disease has been vainly sought by physicians from the time of Hippocrates, who believed it to be a pus disease originating in the brain, down to within the last twenty years, when biological studies began to throw some light upon its probable cause.

So long ago as 1761, Morgagni and his school believed in the contagion of consumption, but this view has not been generally held till the present day, when through direct experiments, Villemin, in 1866, showed, by inoculating rabbits with tuberculous matter, that the disease could be artificially produced, has its infectious character been established.

He concluded :

- “1. Tuberculosis is a specific disease.
- “2. It is an inoculable disease.
- “3. It may be successfully inoculated in rabbits from man.

"4. It belongs, therefore, among the virulent affections, and takes its place in classification with small-pox, scarlet fever, and more especially with glanders."

He declared that the disease arises by germs suspended in the air, or contained in the peculiar tuberculous matter. The development of the science of micro-biology or bacteriology has only served to confirm Villemin's conclusions.

"By these investigations of the pest the stage had been quietly set for the final scene in the history of tuberculosis." Koch had solved the problem of separating or isolating individual micro-organisms, and in 1882 gave to the world his memorable work on "*The Ætiology of Tuberculosis*." In it he described the cause of consumption or tuberculosis as being a germ or microscopic plant in the shape of a slender microbe rod, five times as long as broad, generally curved in shape, with rounded ends, and provided with spores (seeds) which represent its permanent form. These were found by him in the tubercles or nodules from the lungs and the brain of man, from inflamed scrofulous glands, joint inflammations from the chalky nodules of the lungs of animals, the hog, ape, guinea pig, rabbit, and other animals. Ten years have served only to confirm Dr. Koch's first conclusions, and have greatly extended our knowledge regarding the susceptibility of animals to the disease, and of many conditions under which the disease is propagated and disseminated. Dogs, cattle, chickens and other fowls have all been found subject to tuberculosis; while its dissemination by means of the flesh and milk of animals has recently been proven by indubitable evidence.

2. *Prevalence of the Disease*.—It will not be wondered at that a disease with a history so ancient should, during so many centuries, have found its way into every portion of the habitable globe, wherever the conditions were such as to make its existence possible.

That it has spread amongst all civilized races, through favoring conditions, will be shown later on; that there are few families in all Europe whose ancestors have not, at some time or other, suffered from it, will probably be admitted, though that there are many existing families who have no history of ancestral taint for several generations, abundant evidence would seem to prove. This being admitted, and the affinities of the

disease with glanders and leprosy being assumed, the comforting conclusion is forced upon us, that as compulsory destruction of glandered horses has eradicated this *disease* from many communities, and as segregation or isolation of lepers has practically *cast* this opprobrious disease out from amongst Anglo-Saxon races, so consumption, in some perhaps far off and ideal condition of human society, may similarly become a matter of only historical interest to the physician and statistician.

As the causes and contagiousness of consumption have become known, so its hereditary nature becomes less insisted upon, and the possibility of the disease being induced becomes proportionately prominent.

To illustrate, however, the task society has before it, the following figures are given:

During the twenty-five years ending 1886, the average total deaths from phthisis have been 50,000 yearly in England, those from other tubercular affections, 17,700; in all, nearly 68,000.

That, however great this may be, it means a notable reduction, is gathered from the following tables:

TABLE 1.

Mortality per Million. Persons of all Ages.

Period.	1857-60	1861-70	1871-80	1881	1882	1883	1884	1885	1886	1887
Phthisis . . .	2,679	2,475	2,116	1,835	1,844	1,870	1,812	1,752	1,718	1,591
Other tubercular disease . . .	804	784	762	705	729	707	738	654	727	659

TABLE 2.

Ontario, 1881. Phthisis in Persons Over One Year.

	Number.	Per cent. of deaths of persons over one year.	Ratio to Population.
In ten cities	464	14.6	2.04
In towns	213	17.0	2.01
Rest of province	1,720	13.0	1.08

Ratio of consumption to all causes:

In cities 14.67 per cent.

In towns 17.00 per cent.

In country 13.00 per cent.

TABLE 3.

General Death rate from Phthisis in 100,000 Population—England.

	A. Agricultural pursuits.		B. Industrial pursuits.	
	Men.	Women.	Men.	Women.
1858-1867	209	253	243	275
1868-1877	190	205	230	224
1878-1886	158	165	191	179

TABLE 4.

Death rate from Phthisis—England.

	Men.		Women.	
	A.	B.	A.	B.
1850-57	100		100	
1858-67	79	92	87	95
1867-77	67	66	71	77
1878-86	59	72	56	61

In the above English tables are found many interesting facts. Of these one is notable, viz: the fact as seen in Table 3, that in agricultural communities the proportion of deaths from phthisis thirty years ago was almost equal to that of those engaged in industrial pursuits. While this serves to especially illustrate the insanitary condition of the farm laboring class in those years, it points similarly to the fact that even with the many modern improvements in the sanitary condition of work-shops, yet the overcrowding which is induced by increased manufacturing industries, has failed to equal the improvements which have marked the habits of life of the English working classes. The great difference between the class in England and in Ontario is gathered from the subjoined figures. See Table 2.

While the reduction of the death rate from phthisis in those countries where modern sanitation has gained a sure foothold is most satisfactory, yet the scientific investigations of recent years have shown that the existence of phthisis is by no means limited to the human race. As long ago as 1846 Klencke

urged the probability of the milk of tubercular cows being capable of spreading the infection.

And in France and Germany rigid inspection of dairy cows is required. That such inspection is required will be gathered from the following statements:

In Edinburgh, of 660 cows, 87 had mammitis, or 6 per cent. probably tubercular.

Dr. Cruikshank, in 1889, in the report of the Agricultural Department of the Privy Council, states from his own observations and experiments that:

1. Cows with tuberculosis of the udder are to be found in dairies in this country.

2. The milk of these cows is, as a rule, mixed with the general supply.

3. The milk, in cases of udder tuberculosis, contains tubercle bacilli.

4. Rabbits inoculated with, or fed upon milk containing tubercle bacilli, contract tuberculosis.

From these facts it is reasonable to conclude that there may be danger from using the milk of cows with tuberculous udders, and, therefore, strict inspection of dairies should be enforced.

That, however, this may not be sufficient to ward off all danger, is gathered from the statement of Prof. Nocard, at the Paris Congress, in 1888, to the effect that it is almost impossible to tell when the udder has become involved until toward the last stage of infection.

The recent very complete experiments reported by Dr. Ernst, of Harvard University, give some idea of how great this danger from milk may become. In February last he appeared before the committee on public health of the Massachusetts Legislature and gave evidence on the results of some experiments made at the instance of the Society for Promoting Agriculture, and conducted by Dr. A. K. Stone. He stated that of 1,200 to 1,300 answers to a circular all but two expressed their belief in the possibility of transmitting tuberculosis by milk. He has records of probable infection of children from the milk of tuberculosis mothers, and cases of infection from a tuberculosis cow. Veterinarians give instances of infection of calves from tuberculous cows, and he has in his experiments, in the most positive way, proved the extreme infectiousness of milk in cases of tuberculous cows.

Dr. Ernst started out with the intention of determining, if possible, the infectiousness of the milk of cows where the udder did not appear diseased. One hundred and twenty-six distinct and separate examinations of the milk from different cattle were made, each examination meaning three or four days' work. As the result of careful examination, out of 126 series of cover glasses the bacillus tuberculosis in milk coming from cows having no tuberculous udders at all (shown by post mortem) was found in 16 cases, or in 13 per cent.

"By inoculation of the same milk in rabbits and guinea-pigs, in 74 inoculations we produced six cases of tuberculosis, the inoculation being from only one to three drops of milk. This means in over 8 per cent. in rabbits, and in over 13 per cent. in guinea-pigs."

"From feeding experiments with 12 pigs, nearly 50 per cent, became tuberculous, and of 23 calves, 8 or 33 per cent. became tuberculous."

Examination made of samples of milk collected from the city supply of Boston similarly showed, both by inoculation and microscope, even in the mixed milk taken from a number of cows, the presence of the virus of tuberculosis.

That this is possible may be judged from the recent experiments of Forster, who has found that bacilli of tuberculosis live in the milk at least ten days.

But, not only is tubercle prevalent in milch cows, since the inspection of carcasses intended for food, carried on especially in France and Germany, also shows a very notable percentage of tuberculous animals.

Toussaint in the Congress a Tuberculose, held in Paris 1888, gives the percentage of tuberculous cattle as 6 per cent., while more recent German statistics taken from the report of the royal health officer, Berlin, for 1889, give the following results:

	Total cattle inspected.	Total infected.	Per cent.
Sweden, 1886		906	
Sweden, 1887		1,110	
Rotterdam, 1887	14,136	344	2.5
Rotterdam, 1888	16,918	543	3.2
Amsterdam	28,000	495	
Munich, 1888	17,766	1,022	5.7
Grand Duchy Baden for $\frac{3}{4}$ of year 1888	6,421	338	5.2
Dresden			1.7 of all cattle
Saxony, 1889	34,975	3,986	11.4 localities
Augsberg, 1889	13,193	512	varied from 1.1 to 15.8 per cent.
		Cows alone.	3.95
			7.3

It was found in Saxony that tuberculosis increased with age in cattle, nearly half the cases being in cattle over six years of age.

Another fact of extreme importance has been proved by Bayard, who, in 1889, found that the ratio of frequency of occurrence of tuberculosis in men and animals in different districts was almost parallel in both cases.

The absolute necessity for enforcing sanitary inspection and improvements is seen from the investigations of Hirschberger, who injected guinea-pigs with the milk of tubercular cows. While 55 per cent. of these died of tuberculosis, he was able to find the bacilli of tuberculosis in the milk in only one instance.

Poultry, as has been pointed out, are very subject to the disease.

3. *Predisposing Causes.* While much has been said and written on this subject, daily evidences go to show that unsanitary conditions under all circumstances, and understood as applying to every state and stage of human existence, are the largest factor in the causation of consumption.

(a). *Influences of Heredity.* Popular and professional opinion have both accorded to heredity the principal exciting cause; but the most scientific teachings of the present day are that all that is inherited is a tendency due to imperfect development, not of organism in its gross or composite form, but in the structural or cell elements of its tissues. It will be manifest that if the delicate mother has a child weak at birth, it is probable in every nature of things that it will be imperfectly nourished by her, and the innate tendency will be rather developed than lessened. That this is true seems to be borne out by the fact of the enormous numbers of children dying within the first year or two of birth from tuberculosis of the intestinal tract and neighboring glands.

Cornil has shown that the bacilli are taken into the system without any necessary abrasion of the mucous membrane, and that the intestinal tract should be the common avenue of infection in children, will be accepted without discussion.

The urgent necessity for increased attention to this period of danger is illustrated by statistics. Thus the Registrar-General of England has shown that while the death-rate per million from phthisis and tubercular brain disease since 1861-70

has decreased, that from *tabes mesenterica* and *scrofula* has increased, thus :

	Phthisis.	Hydrocephalus, tubercular meningitis.	Tabes mes entericas.
1861-70	968	2,213	2,267
1871-80	767	1,800	2,550

To the mal-nutrition which plays so fatal a part in those with a tendency, as infants, we can see that the tendency is by no means at an end with the teething period.

Everywhere, but especially in the dwellings of the poor, is seen crowding with uncleanness, and food, poor both in amount and quality, and in its preparation.

The following from the Local Governments Board's Report for 1889 shows the necessity for attention to this source of disease. "Milk continues to be the chief subject of analysis; out of 26,344 samples of various articles of food, drink and drugs, no less than 10,859 were of what professed to be milk, of which 11.9 per cent. were condemned."

"While in one of the London districts, St. Pancras, out of 129 samples, no less than 55, or near 43 per cent. were condemned."

The following instance illustrates the enormity of the crime of adulteration, and the inadequacy of the fine to prevent adulterating.

"In another case in which the milk-vender stated that he rarely sold more than a farthing's worth at a time, the sample taken was found diluted with 15 per cent. of water, but the magistrate considered that one shilling was an adequate fine."

On this decision the public analyst comments as follows:

"It is these small portions of milk which are used to fill the bottles of young children, and are often diluted by the parents after the purchase, and thus it is impossible to say how weak the milk becomes before the same is used, but it is not difficult to understand why the mortality amongst the children of the poor is so great."

As might be inferred, the dangers minimized by the small amount of milk used by the poorer classes are, on the other hand, increased from their milk supply, of the poorest quality,

being more likely to come from dairies inferior both as regards the healthfulness of the cows, and the cleanliness of their surroundings. The high mortality amongst the children of the poor may fairly be charged, in a large part, to the marasmus arising from mal-nutrition due to insufficient and unwholesome food.

Under these circumstances it is plain that whatever inherited weakness there may be, the subsequent conditions result in a lessening of the natural resistance of the system to the disease.

Councilman well illustrates the difference in the resisting power of different individuals by the amount of connective tissue formation thrown around infected points, as a cautory or miliary tubercle. He says:

"In some cases (in autopsies) almost nothing of this is seen, and the disease passes rapidly into inflammation and caseation. These differences show themselves in different organs of the body, and indurated and healed apices of lymph and bronchial glands are common.

Referring to the assumed predisposition in combatting hereditary tuberculosis, he further says:

"All conditions of life which produce a low state of vitality in the system, predispose to consumption."

Turning, then, to some of these, in addition to what has been said, re-improper and deficient food, we would place first:

(b). *Overcrowding*. The following statistics, re-increase of general mortality according to the population per acre, is of interest.

James T. Hamnach, F. S. S., Assistant Superintendent of Statistics, Registrar-General's Office, says, speaking of the relation between density of population and mortality from consumption:

"The facts about to be adduced will show that density of population, so far as being an unimportant element with regard to the mortality from consumption, is in fact a very potent agent in producing that fearful and destructive malady.

"Overcrowding is of two kinds. (1.) On the superficial area. (2.) In cubic space. And either may exist independently of the other. In the country, where there is no overcrowding, a laborer's cottage may be so crowded by its in-

mates that disease may break out, while in the case of model lodging houses and many well-constructed public institutions it is quite possible, by a suitable construction of buildings, to have a dense population living healthily because occupying a large cubical space.

"Thus in the districts with the least density the deaths from consumption were 375 and in those of most density 485 to 100,000 living, while other lung diseases caused 914 deaths in the densest against 659 in the least dense districts out of the same numbers living, the deaths out of the living, not the proportion they bear to the mortality from all causes, being the true index to the fatality of particular diseases."

In the Registrar-General's report the mortality from different diseases in London and twenty-four other city districts, with an aggregate population of 3,769,000, was contrasted with the mortality from the same diseases in counties containing a population of 3,559,000, chiefly engaged in agriculture.

TABLE No. 5.

GROUPS OF TEN DISTRICTS EACH.	DENSITY.	ANNUAL RATE OF MORTALITY PER 100,000 LIVING.	
	Square Yards to Each Person.	From Phthisis.	Other Diseases of the Respiratory Organs.
No. 1	180	375	659
No. 2	119	405	771
No. 3	35	485	914

The tendency to consumption, Dr. Farr remarks, was increased twenty-four per cent. to typhus fifty-five per cent., in the town districts; but as the absolute mortality from consumption is three times as great as from typhus in towns, and nearly four times as great in the country, the excess of deaths from consumption, caused by the insalubrity of towns, is greater than the excess of deaths by typhus, a fact which has been hitherto overlooked. The deaths from phthisis were 437 in the towns and 351 in the country districts to 100,000 living.

That this increased mortality has its relations to the directly increased dangers of infection may be seen from the following investigations on the relative number of germs and amount of organic impurities in houses with different number of rooms, by Professor Carnelly, of Dundee.

	No. of Cases.	Average space per person.	Average carbonic acid.	Average organic matter.	Average micro-organisms.
One roomed house—					
Dirty	7	200	9.9	18.1	41
Dirtier	13	221	10.7	13.5	49
Very dirty	6	220	11	15.1	93
Clean	1	295	8	13.1	18
Two roomed house—					
Very clean	2	273	12.5	10.8	10
Clean	4	264	9.3	7.7	22
Dirty	7	233	9.4	11.2	69
Naturally ventilated boarding schools—					
Cleaner	12	167	19.7	18.1	91
Average cleanliness	12	166	14.2	16.2	125
Dirtier	12	191	22.5	15.2	198
Mechanically ventilated schools—					
Cleanest	7	194	12.5	12.7	..
Clean	11	155	12.8	8.3	10
Less clean	4	152	10.8	9.8	30

The statistics already quoted in table 3, showing the number of deaths amongst the women of the agricultural class in England, as compared with men, show the malign influences of indoor life, the ratio being 230 women to 205 men; and of the greater mortality of industrial operations, the ratio being 467 to 664, fully illustrates two points, that with the decreased resistance of the system due to industrial pursuits is associated the increased danger due to greater exposure in an atmosphere impure and containing the bacilli of tuberculosis.

“Mager, from Bavarian statistics, estimates the proportion of deaths from phthisis between town and country at 100 to 61.”—(*Hirsch*).

This increase of the phthisical amongst the industrial classes is due not alone to the increased dangers of infection, but to the nature of the occupation. “Dusty trades,” says Wynter Blythe, “are especially liable to produce tubercular disease.”

Dr. C. Lombard states that of 1,000 deaths of adults from consumption, they could be classed as follows:

Occupations with mineral emanation.....	176
Occupations with various dusts.....	145
Sedentary life	140
Workshop	138
Hot and dry air	127
Stooping posture	122
Sudden movements of arms.....	116
Muscular exercise by active life	89
Exercise of voice.....	75
Working in open air.....	73
Animal emanation	60
Occupations in which watery vapor is breathed.....	53

Similarly, according to Hirsch, "Smith has ascertained for one thousand persons treated for consumption, at the Brompton hospital, that seventy per cent. of them had been in the habit of spending their time in overcrowded, hot and dusty places indoors."

"The same circumstances seem to account for the strikingly common occurrence of phthisis in nunneries, seminaries and such institutions, in evidence whereof a number of observations have been brought forward by Foucault."

Finally I may state that in the 1890 report of the Inspector of Prisons and Public Charities in Ontario, where the public institutions have by all observers received high commendation, the aggregation of population would seem to produce similar results.

Thus of a total population of insane asylums, amounting to 3,500, having 231 deaths, or sixty-six per 1,000, there were twenty-nine due to phthisis, *i. e.*, forty-four per cent.

Of the total number who died 153, or sixty-six per cent., had been in the asylum over eighteen months, but no data are given showing what proportion of those who died from phthisis died within that period.

Influence of soil and climate, says Hirsch, re-pneumonia: "Elevation and configuration, situation on the coast or in the interior, geological character and the like, are all irrelevant in themselves; they have a significance for the pathogenesis only in so far as they determine the climate or the sort of weather in any locality; and it is to be keeping that fact in mind that we may explain the contradictory conclusions which have been arrived at through attending too rigidly to each of the factors named, as if it could be an element in the causation by itself."

This must be similarly stated with regard to their influence on the prevalence of phthisis, while this writer very properly states, after a statistical study of mortality tables of different countries, "that circumstances of climate are, on the whole, of merely subordinate importance for the limits of that distribution;" "that the disease occurs *cæterius paribus* in all geographical zones with uniform frequency; that in many regions the number of cases has gone up considerably without any corresponding changes in the climates, but under circumstances of another kind." The mean level of the temperature, therefore, has no significance, but it exercises a very decided influence on the course of the disease, for it runs a much more rapid and pernicious course in tropical countries than in higher latitudes.

Hirsch further affirms that "severe and sudden changes of temperature from day to day have little influence on their own account."

No doubt we have to take into account a fact of importance for the question before us, viz., that all those regions have an absolutely dry climate. The circumstances which come out most decidedly in equatorial and sub-tropical regions.

Regarding the influence of ground water upon the prevalence of consumption, while it is very difficult to separate the influence of different factors, still evidence seems sufficient to make us conclude that this is an important factor in the prevalence of consumption.

Bowditch and Buchanan, after extended researches, especially by the latter, have affirmed this influence; and Buchanan remains of the opinion that the exceptions to the rule worked out by him simply indicate that other ætiological factors besides the influence of soil come into the account under the given circumstances, and seem to neutralize the benefits even of the most favorable condition of soil.

An interesting point seems to have been determined from the Ontario statistics. Thus the Health Districts 6 and 7 present two very decided differences of physical surface conditions. East District 6 is a central plateau averaging nearly 1,000 feet above the sea, fifty or more miles from the great lakes, and having a soil largely gravelly loam, while District 7 is the Niagara peninsula between Lakes Erie and Ontario, about 700 feet above the sea, flat, and having a soil largely of post-glacial

clays. The latter has been till recent years very malarious, while the former has practically never had intermittent fevers.

An analysis of the deaths from phthisis, in 1881 gave the following results:

	Percentage of total deaths.	Ratio per 1,000.
District 6	85	1.02
District 7	12.7	1.64

These latter figures are to me very convincing, for the reason that in neither district are there any large towns, while the great bulk of the population in both is engaged in agricultural pursuits, is of the same race, and equally industrious and intelligent.

Setting forth, therefore, in brief form the conclusions based upon this statistical study, I would say—

1. That we must recognize the disease phthisis as beyond question a contagious disease, belonging to the category wherein are placed glanders and leprosy.

2. That assuming this to be true beyond question, the attitude we must, as officers of health, assume, is to treat it as such, and hence must examine into what practical measures are to be taken by us for preventing it, and as far as possible, limiting its dissemination from those centers where we find it existing.

3. Arguing by inferences fairly drawn from the numerous statistics already presented, I conclude that we must primarily regard the question of dealing practically with the problem as being one having in an especial sense the qualities of a sanitary crusade.

4. This, I infer, means that the extension of phthisis must be looked for by our urging that to deal with it successfully, means, as with diphtheria and other diseases of its class, we must endeavor:

- a. To prevent it by removing the causes which promote it.

- b. By so regulating the habits and lives of those affected with it, as to prevent them from becoming sources of infection to the healthy.

- c. By the establishment of hospitals and sanatoria, where those infected may have the best possible opportunities of being cured of the disease.

5. Referring to these points in their order I would say as regards the prevention of the disease, we must look to the private or family home of the people.

Here the matters specially to be inquired into are:

a. The removal of dampness both under and around houses, as also the removal of all wood or other organic matter tending to decay or promote fungoid growth.

b. The establishing of efficient and complete drainage.

c. The introduction of a pure water supply.

d. The maintenance of purity of the atmosphere of the house by cleanliness, ventilation, and the abundance of sunlight.

e. Proper and equable heating of the living rooms.

f. Attention to the clothing of people whether in the house or out of it. It must be clean, non-conducting and sufficient.

g. The use of nutritious and wholesome food, notably of animal foods, as meat, milk, etc.

6. This means that we must follow the people to:

a. The school, and see that those desiderata required for the healthy home be held in the school.

b. The work-room and shop where there is the constant difficulty of over crowding and uncleanness.

c. The trade or occupation, notably into our woolen factories where animal materials are handled, to the works where stone-cutting, grinding, etc., are carried on; and to those where effluvia and poisonous particles are given off, as in painting, card-glazing, arsenical manufacturing. In this direction indeed our labors must be simply never-ceasing, for the danger to health are almost as multifarious as the different industries carried on.

d. The municipal home.

Here we have to deal with the large problem of municipal sanitation. This means, (a) town drainage; (b) town sewerage; (c) town paving; (d) public water works; (e) inspection of filth nuisances; (f) compulsory notification of cases of consumption.

B. This means the removal of consumptives from daily contact with others in public institutions, in work-shops, etc., (g) sanitary and medical education of the people in the homes of such, as to the dangers of personal contact.

The numerous details on this point must naturally be effective to the degree that public sanitation acquires an influence

over the person and in the home, and to the degree that the medical profession in their private practice insist on the danger of infection and on the carrying out in the homes of measures to limit this.

The last point is one which specially belongs to our work, viz.: The management of municipal hospitals for consumptives, and of sanatoria.

In centuries past lazarettos were numerous in Europe, the confinement of lepers was compulsory, and as a result leprosy can scarcely be said to belong to the category of disease amongst civilized people. There can be no logical reason why municipal and State government aid should not be given to hospitals specially appointed for treating consumption. I do not think that it is either practical or advisable that we should teach or urge that segregation of consumptives in such should be made compulsory, but there are abundant reasons why the existence of such homes where the poorer classes can live and be treated, should everywhere be made available.

The question of how far these views can be carried into practice will depend directly upon the appreciation which the public has of the dangers to be apprehended and of the means to be taken to avoid such.

It is within the scope, but not within the time allotted, to discuss on what basis such can be carried out; but it must suffice to say that curative institutions for consumption must be essentially sanatoria, where equable climate, dry air, pure air, sunlight, outdoor work and exercise, gymnastics, and indeed every measure going to increase the resisting power of the system may be had to the greatest extent, which any climate makes possible.

Dr. Vaughan said he agreed with the views of Dr. Bryce in nearly every particular. There can be no doubt but that the disease is contagious, and caused by the bacillus tuberculosis; but another element must enter into its production, for without doubt the germs of the disease are widespread, and all of us must at times receive these germs into the system. The germs are most frequently disseminated by means of the sputa, but when the bowels become affected, as they so often do, they are also present in the bowel discharges. State and Local Boards of Health could accomplish great good by teaching the people the danger connected with the sputa and fecal discharges of

consumptives, and how properly to disinfect them. Dr. Vaughan was in favor of consumptive hospitals, and thought thorough isolation of cases would eradicate the disease.

He said that while he recognized a possible danger in tuberculosis meat and milk, he was inclined to believe their importance, as a means of spreading the disease, had been over-estimated.

Dr. Balch spoke in favor of all efforts to secure improved sanitation, as a means of combatting consumption. It was an undoubted fact that improvements in drainage, and in the ventilation of houses and work-shops, had done much to lessen the prevalence of the disease.

"Isolation of diseased persons is all very pretty in theory, and would probably be very effective in practice, but it can not possibly be done." He told of the difficulty he had encountered in causing the removal to hospitals of persons suffering with small-pox, a disease all dreaded, and said this indicated the impracticability of removing consumptives to hospitals. If consumptives were allowed at large, and he saw no way of preventing this, he thought it would not be possible to secure disinfection of their sputa.

Dr. Salomon related a case showing the infectious character of consumption and the length of time the germs may retain their vitality. The case was related to him by an intelligent man in New Orleans, and, while the Doctor had not verified the facts, he considered them to be true. A family moved into a house in which there had been a death from consumption. The father occupied the room in which the first case had died. He contracted the disease and died within two years. One of the sons then occupied the room, and he also contracted consumption and died. The room was not used for some time, when the second son moved into it, and he also contracted the disease and died. The house was then shut up and offered for sale, but not disposed of for several years. It was finally sold, and the person who occupied the room in which the other cases occurred took consumption and died. The room was then thoroughly cleaned and disinfected, the walls scraped and re-kalsomined, and from that time on no other cases occurred in the house.

Dr. Homan said that at a recent visit to a certain health resort he was struck with the number of cases of consumption reported among the residents. The rooms were fitted up with

heavy carpets and thick curtains, well calculated to receive and retain the infection of the disease, while disinfection, apparently, was not practiced.

He thought more attention should be given to these matters at the various health resorts. He suggested that consumptives could provide themselves with cloths for receiving sputa, to be burned as soon after using as possible.

This is the best means of disposing of infectious sputa; and the people would understand us better if we use the term "destruction of sputa" instead of disinfection.

Dr. Beeler said that consumption was undoubtedly now much more prevalent among the negroes than it was before the war.

He attributed this to the overcrowded and illy ventilated dwellings in which the negroes, especially those living in cities, now dwell. The race is undoubtedly much more susceptible to the disease than formerly, and their habits of life are such that the germs of consumption are indefinitely preserved in their dwellings when once introduced.

Dr. Bryce, in closing the discussion, said he was pleased to observe that the majority of the conclusions of his paper had been so well sustained by the members of the Conference. He did not contemplate the compulsory isolation of consumptives, but to provide hospitals where the poor would gladly go to be treated.

A large number of our work-shops are, from lack of proper ventilation and other causes, conducive to consumption. Public authorities should be able to regulate such places, and, when one of the workmen shows evidence of the disease, in the interest of his fellow-workmen and for his own sake, he should be removed.

Every city could afford to have at its outskirts a place where such persons could go, and by proper arrangements for treatment, fresh air and good food, many of these might recover. Physicians, householders and employers should be required to report all cases of the disease, and health authorities could then inquire into the sanitary conditions of dwellings and work-shops, which possibly were responsible for the disease.

On motion of Dr. Bryce it was voted to appoint a committee of three to report upon the measures to be recommended for the prevention of consumption.

The chair appointed as members of this committee, Dr. P. H. Bryce, Dr. L. F. Salomon, Dr. Victor C. Vaughan, Dr. Irving A. Watson and Dr. Henry B. Baker were subsequently added to this committee.

The next question taken up was: "Would the Appointment of Medical Health Officers for Counties, in Place of Township Offices, and Paid for Devoting their time Exclusively to Public Health Work, be Advantageous and Practicable?"

Dr. C. A. Lindsley opened the discussion by reading the following paper:

The first thought this question suggested is, that such a practice would develop a body of sanitarians much superior to any which the township system could possibly produce. In that one result would be found a large measure of advantage.

The administration of public hygiene in these days is not any longer to be successfully undertaken by any good citizen, however much he may be esteemed by his fellow-townsmen for his skill as a blacksmith, his honesty as a grocer or banker, his fair-mindedness as a justice of the peace, or even for his judgment as the family doctor.

Public hygiene is not now a matter of diet and flannel, and of taking cold.

Public sanitation is taking on a scientific character. Its administration is based on principles which are more or less settled and fixed. The spread of infectious and contagious diseases, and the promotion and conservation of the public health is only to be undertaken successfully with a full knowledge of these laws and of the means suggested by such knowledge.

The above statement reduced to its simplest terms, reads: A health officer requires a special education and training.

The special education and training implies a business, an occupation, a means of earning a living, an object worthy of such preparation.

The ideal health officer is one who has had a good medical education as an indispensable foundation for his special work. It is almost equally important that he should have the experience of some years of general practice as a further basis of preparation, because he should be qualified to be an authority in the diagnosis of those contagious and infectious diseases which are dangerous to the public; and also because such experience and

the matured age which it implies will be an additional influence in winning the confidence of the people whom he serves.

Supplementary to such acquired qualifications he should be a man with the natural gifts of a sound judgment, of high integrity of character, of clear and quick perceptions, and especially of such ready tact in managing affairs as to command the respectful consideration of the public. These are qualifications of no mean order. They represent a higher standard of acquired and natural ability than the average man possesses. But the sort of man so described corresponds well with the duties and responsibilities of the high functions of his office.

To him are intrusted the highest interests of man in the social state. He is the appointed guardian and custodian of the public health, and in that capacity one of the chief factors in the promotion of public prosperity and general happiness. For there is nothing so disastrous to the public welfare, nothing so productive of personal misery and suffering, as disease and death.

A nation whose people are physically feeble, or which is subject to frequent epidemics, can not be said to be prosperous in any true sense.

Looking then at the question, from a stand-point which takes in view the rare qualifications necessary for a good health officer, the preparation for its duties and the magnitude and importance of the interest involved, it seems self evident that it is for the best public good, that the true health officer should find full occupation in the exercise of his official functions; that one qualified as he should be for such high and grave responsibilities should not have his attention diverted from his serious obligations to the public by being obliged to earn a subsistence in other pursuits.

It seems right and fitting that the man who has been educated and trained for the office should be utilized to the best advantage in the public interest.

Thus the question presents itself to my mind in a speculative way.

It remains to notice the practical application of these reflections.

I assume that, in the interest of the public, a health officer should be nothing else in a business or professional way.

All experience teaches that it is incompatible with the public interest that he should be a practitioner of medicine, or else that it is incompatible with his own interest that he should be a health officer in the same community in which he practices.

A long experience in the administration of public hygiene has pressed me with the immovable conviction that a health officer who is never criticised and found fault with, who makes no enemies, who is not heartily cursed and sworn at by his profane neighbors, is of no practical use as a health officer. And on the other hand, a health officer who is faithful to his public duties, impartial and resolute in his official acts, will gradually, steadily and surely surrender a large share of his patients to the care of his professional competitors.

The two pursuits can not be harmoniously joined in the same town.

Here, then, is a serious practical difficulty with town health officers. In the first place, every town does not possess an available and competent man. He should be chosen always from the medical profession; no others are fully qualified for the office.

But if it be attempted to unite in one person the special duties of medical practitioner and health officer, it soon inevitably happens that there is a conflict between public duty and personal interest, and one must be betrayed or the other will surely suffer.

The wealthy landlord will not meekly receive an order from his family physician to overhaul the plumbing in his tenement houses, to drain the cellars, to remove offensive cesspools, etc., etc., and so make the dwellings of his tenants safer habitations. After receiving such orders, that wealthy landlord will call upon Dr. Smith to attend his family, or, perhaps, Dr. Health Officer, foreseeing that result, will prudently omit to send the order, and the tenants will continue to endure their wrongs, because it is not the personal interest of the only party who can protect them to do so. But under the town system that combination of the general practitioner and town health office is the only practicable method. The town is not only too narrow a field for a man of the required capacity, but it is also too limited for the best use of such service and for the best results.

Public hygiene deals not alone with local conditions. It has to do with the welfare of populations, settled over wide areas of territory, and under such varying conditions, that the common good of the whole can not be attained without a comprehensive acquaintance with the mutual relations and interest which the separate towns or communities within those areas may bear to each other.

There are undertakings essential to the promotion of the general public health, which require concert of action on the part of several more or less separated communities. It is hard to believe that the wisest measures will be proposed by health officers whose official duties are limited to the narrow confines of their own towns, and whose conceptions of such duties are generally even more limited.

It is not reasonable to expect that men whose services to the public in this line are usually gratuitous, or very badly paid, will or can give such studious and careful attention to the sanitary wants not only of their own towns, but of their sanitary relations to other towns, as to be competent and wise counselors for the best good of the whole. On the other hand, it often happens that a town board of health, seeking only the selfish interest of its own citizens, and, regardless of others, proceeds to do things which are directly injurious to the health and welfare of adjoining towns.

From the nature of the existing facts, and from a knowledge of the principles and laws which should govern in the general administration of public hygiene, it is self-evident that the greatest good to the greatest number will never be realized from separate, unsystematized and independent town boards of health. Town boards and town officials have their uses and proper functions, which are of great value, and in any plan of operations will be found to be essential to the best success. But the work of town boards needs direction and unification. .

Wherever the common interest of several towns are involved, that interest will be best subserved, if the efforts undertaken be under the direction of one mind which has intelligent and comprehensive knowledge of their mutual relations and needs.

The general must command the operations of the army. The colonels, and majors, the captains and lieutenants, must act in concert to accomplish his plans, or the army becomes a mob.

It may be urged in this connection that the State Boards of Health should be the directing power, the commanding general. That, I believe is true. Although they are not all constituted with such power.

Several of them are like that of Connecticut, being only an advisory body, and having no mandatory powers at all. But even if the State Board is authorized to be commander-in-chief, there is a long space between the State Board and each little town board. There is no possibility of bringing them into such close relations, that its authority can be exercised in the most practical and useful way. It requires the intermediate grades of officials to make a useful connection between them. And here the county health officers would form the connecting link. The territory under the jurisdiction of the county health officer would not be so extensive that he could not, in a reasonable time, become personally acquainted with its topography in matters affecting health. He could, in many instances, by personal investigation, discover and expose the origin of primary cases of communicable diseases, and by such forcible illustration persuade and instruct the public mind. His practical experience would be of great value in arresting and controlling epidemics, if they occurred, but of still greater value in preventing them.

The time has fully arrived when communities and populations should accept the fact, that the proper protection and care of the public health is a most important public duty. That its due performance is so dependent upon a scientific knowledge of methods, that it can only be successfully accomplished by trained and qualified officials, and that there is great economy in providing for this service in the best and most efficient manner.

Another and great advantage which would be difficult to estimate, because it is one of growth and development, and would be enhanced with every year's experience, is that which would come to the State from possessing a body of educated sanitarians, equal in number to its county divisions, and each familiar with the hygiene conditions and sanitary needs of his own jurisdiction.

Such men, selected for their special fitness, holding their office by appointment, and not subject to the caprice of popular elections, but confident of their position, unless by removal for

cause, devoting their time and best energies to their duties, would form a bureau of information which might be of the highest benefit to the State Board, and through it, to the people's health.

If, now, we review the points which have been presented, to-wit: The nature of the work to be done, the qualifications required of those who do it, the impracticability of associating it with other pursuits depending upon public patronage, the hindrances and difficulties resulting from limiting independent sanitary jurisdictions within town boundaries, and the positive advantages of broader territorial supervision, and finally the immeasurable benefit which such a body of educated sanitarians, devoted to their work, and familiar with every portion of the State, could confer upon it, leaves no doubt in the mind of the speaker that the question should be answered in the affirmative.

This paper was discussed at length by Drs. Balch, Cochran, Chancellor, Metcalf and others.

Adjourned to 3.30 P. M.

THIRD SESSION.

The Committee on the Prevention of Consumption was requested to present a preliminary report at the night session, the completed report to be made at the next meeting of the conference.

The question proposed by the Provincial Board of Health of Ontario: "The advantages of the organization of Rivers Conservancy Commissions, composed of State and Municipal Health Boards, for the protection of streams against defostering and pollution at their sources and along their courses," was taken up for discussion.

Dr. Salomon, of Louisiana, in opening the discussion, read the following paper:

MR. PRESIDENT AND GENTLEMEN.—In the opening of the discussion proposed by the Province of Ontario it is not my intention to occupy your time with an array of statistics and statement of facts with which you are all familiar.

The question submitted permits of division into two heads for discussion, each, however, somewhat dependent upon the other.

The question as to the deforesting of rivers along their courses was met to a large extent by the discussion before the Conference at its last meeting, and in regard to the views then expressed, and the resolution adopted by the Conference, I have little further to add than to say that by the preservation of the forests along the water courses, thus securing a slower percolation and filtration through the soil, the pollution of streams may be, and undoubtedly is to a large extent, prevented.

Streams near their origins, as a rule, furnish good sources of water supply, but the further away we get from the springs and mountain streams which furnish the initial supply the less fit do we find the water for drinking purposes.

Without entering into details, it will be sufficient to say in regard to the first division of the question that the deforesting of lands adjacent to streams, which permits of a more rapid surface drainage of rain water directly into such streams, necessarily implies the carrying into them of the organic matters always to be found in regions in which the ground is under cultivation, more particularly so in regard to manured lands, and other attendant conditions of the soil which it is necessary to enumerate.

As to the consequent floods from deforestry, nothing need be said in addition to what is already a too familiar fact.

It is, however, with the pollution of streams through other than natural causes that we are most concerned, and each succeeding year is adding and will continue to add to the evil, and the consequent difficulty of providing a remedy therefor.

Sewerage, and the discharge of refuse of all kinds into streams and rivers from the towns along their banks, is the most potent factor in the pollution of water courses, and following this, the discharge from factories, often of such a nature as to be destructive to all animal life for miles from the points of discharge.

Dilution by large supply of water in the larger streams may and probably does to some extent mitigate the evil, but we must bear in mind that the smaller streams are not capable of this method of self-purification, owing to limited dilution of the contaminating matters, and in the case of the larger streams it is found that the towns along their courses are so numerous that the continuous succession of sources of pollution allows small chance of purification through dilution or oxidation.

Organic and inorganic matters in a state of solution or suspension are thus being constantly added to streams already charged with the same matters, often in a state of putrescence, and with each succeeding town along a water-course the evil is multiplied, and the danger from water-pollution keeps constantly increasing in relative ratio to the places of contamination, the next lower town to a manufacturing city being subjected to all the evils while it may itself be putting forth every effort to keep pure the stream from which its water supply is derived.

Infusoria and other animaculæ may in a large degree aid in purifying the water in such streams, but we are not certain as to the extent of such purification, and should not depend upon these natural agencies alone to accomplish the work; besides, it is very questionable as to the work in this direction that may be thus accomplished, when it is remembered that repeated discharges of sewage and kindred matters will destroy these purifying agents, with the accompanying inevitable result of decomposition and the production of offensive gases.

Sewage, as is well known, often contains the specific poisons of disease and numerous instances are on record in which towns and cities along water-courses have been afflicted with disease thus brought down to them from adjacent towns.

It would only be trying your patience and occupying the valuable time of the Conference to elaborate upon this subject with which all sanitarians are familiar, and to which I can add nothing new, and in regard to which facts have been so often repeated.

The question before us simply resolves itself into what is best to be done to stop the constantly increasing evil.

I am therefore pleased that the subject has been presented in the way it has by the Province of Ontario, because I believe that in the organization of conservancy commissions as outlined in the question, a practical solution of the question is foreshadowed, and that at the least much good can be accomplished.

Legislation without co-operation would be futile, for while one State might make and enforce laws to prevent the pollution of streams within its own territory, its laws would accomplish little good unless contiguous States should do likewise; and I believe that through the co-operative action of State and municipal Boards of Health the proper legislation may be

secured in all States and municipalities, and with united action the good work be carried on.

The importance of this much needed legislation has always engaged the attention of sanitarians, and it may be emphasised by recalling that the first sanitary act upon the English statute books is an act passed in 1888, which act prohibited the pollution of streams, and provided a penalty for its violation.

If then such an act was deemed necessary at a time when the needs of sanitation were little understood, and when the population was very sparse, and manufacturing industries so feebly developed, how much more urgent is the need now for such legislation when our cities and towns are filled with factories discharging their refuse into the rivers, and the teeming thousands of inhabitants along their courses are constantly adding to their pollution, and rendering them unfit for drinkable or other purposes, not only offending the senses, but producing disease and death through the ever continuing contamination.

True, the interests involved are such that the question of prevention at this day is one of immense magnitude, surrounded with many obstacles, and perhaps difficult of accomplishment. No legislation, as yet, has been able to secure the much desired end, but I am of the opinion that with concerted action on the part of health boards, and the securing of local regulations rather than general legislation upon this subject, much can be accomplished; and with each local authority, under the guidance of commissions as contemplated, supervising the streams over which it has jurisdiction, their pollution can be largely controlled or altogether terminated.

Such action, however, necessarily requires concerted and uniform methods of procedure, and it is probably through commissions composed of health officials of contiguous States that the work can be best accomplished. Therefore, Mr. President, I beg to submit the following resolution:

Resolved, That it is the sense of this Conference that the pollution of streams is attaining such magnitude that early action should be taken by State and local Boards of Health, looking to its prevention.

Resolved, That a committee of three be appointed to consider the best means of securing the formation of Rivers Conservancy Commissions, composed of State and local Boards of Health,

and to recommend such legislation as may be necessary to secure the desired result.

Resolved, That said committee report at the next meeting of this Conference.

Dr. Chancellor said there was great need of State organization, or National aid in preventing the pollution of streams. Rivers in many instances formed the boundaries of States, in which case it was impossible to protect the streams without State coöperation. The Potomac River was given as an illustration. The laws of Maryland for protecting the streams are fairly satisfactory; but he had recently endeavored, unsuccessfully, to secure the aid of West Virginia in preventing the pollution of the Potomac river. He said that Cumberland, Md., had been suffering with an epidemic of typhoid fever for the past two years, some 600 cases having occurred. In looking for the cause of the epidemic, it was apparently traceable to the water supply taken from the Potomac, which was polluted with the sewage from Keyser, W. Va., where typhoid fever was prevailing. National aid would probably be needed to control such cases.

Dr. Watson supported Dr. Chancellor's remarks. He said Massachusetts, which has the most comprehensive laws, and a special board to protect its streams, was suffering greatly from the pollution of the Merrimac River by cities in New Hampshire. It was simply impossible for the present to prevent the large cities along the Merrimac from emptying their sewage into it; it would cost millions of dollars to dispose of their sewage otherwise.

Dr. Metcalf, of Indiana, said they were having trouble in their State from the pollution of streams by the waste from straw board works. One of the largest works in the United States was only about twenty miles from Indianapolis, and this question of pollution of rivers would soon have to be met in their State.

Dr. Reeve said the pollution of streams to some extent was unavoidable, and a question the Conference should consider was whether it was possible, by filtration or otherwise, to so purify a polluted water that it could be safely used for domestic purposes.

Dr. Reynolds thought it would be difficult to secure the coöperation of States needed in many instances to control the pollution of streams, and favored asking for a National law.

Dr. Bryee said in Ontario the question is the protection of one town against another higher up on the same stream. He thought we should settle such State questions before calling on the National Government. In most European countries they have compelled cities to respect the rights of their neighbors, lower down the stream.

Dr. Lee said that action must begin in the States before it reaches the National Government. Philadelphia had the distinction of having the highest typhoid fever death rate of probably any other American city.

They were now having an epidemic of the disease traceable to their water supply. It had been noted that wards supplied with water from storage basins suffered with the disease much less than those supplied direct.

Recently complaint had come to their Board of the pollution of streams by salt coming from abandoned wells. The Board had made answer that salt was antiseptic, and could not be considered as polluting material. The reply was that the salt in Beaver River interfered with the public water supply for Beaver City, thus compelling them to return to use of wells, leading to an increase of typhoid fever in their city. The Board had introduced a bill in the Legislature for the prevention of the pollution of streams. The bill, by implication, included salt. The bill, however, was killed by amendments, and now only excludes wastes from slaughter-houses, dead animals, etc., from streams.

Dr. C. A. Lindsley said they were urging upon towns the necessity of disposing of their sewage in some other manner than by emptying it into streams, such as broad irrigation, intermittent filtration, etc.

Their Board had been engaged for sometime in investigating the pollution of the streams of Connecticut. In only one instance had the Legislature forbidden the emptying of sewage into streams. This was at Meriden.

Dr. Reeve presented the following as supplemental to the resolution:

Resolved, That this committee be requested to consider and report upon the sanitary value, especially to municipalities, of the purification of water in polluted streams, either by the distance which such polluted water has traveled, or by means of filters or storage beds, or by any other artificial methods.

This was accepted by Dr. Salomon, and the resolution was adopted.

Dr. Watson called attention to the work the Massachusetts Board of Health was doing in this direction, as set forth in their last report on water supplies; also to their experiments in sewage filtration, which, for the first time, definitely settled important questions relating to water filtration and sewage disposal.

The President said that he would announce the committee called for in the resolution at the next session.

Dr. Lee said that a bill was then pending in the Legislature of his State relating to water pollution, and moved that the Secretary be instructed to forward a copy of the resolution to the President of the Senate and Chairman of the House of Representatives of Pennsylvania.

The motion was seconded and carried.

The question proposed by Michigan:

"What change, if any, should be made in the present plan for providing a programme for meetings of the Conference?"

Was taken up for discussion.

Dr. McCormack said there had always been difficulty in arranging a programme for meetings of the Conference, due, to some extent, to the neglect of the various Secretaries of State Boards of Health to send questions for discussion.

It had suggested itself that it would be well to have the programme mapped out on the first day of the meeting for the next succeeding meeting. This might be done by a committee whose report could be acted upon by the Conference.

Dr. Cochran thinks Dr. McCormack's method not a good one. If a committee were appointed at all, he would simply have it act on the questions proposed by the various States.

Dr. C. A. Lindsley said he favored the plan proposed by Dr. McCormack.

This committee could receive questions from any State and decide upon their appropriateness for discussion by the Conference. He knew, under the present plan, that it was almost impossible to satisfactorily arrange a programme.

While on the floor he took occasion to say that he thought the Conference was now in a position to stand alone, and need not hold its meetings in connection with any other body. He was opposed to calling meetings on Saturday, as it tended to lessen the attendance.

Dr. Bryce thought the President and Secretary should fix the time of meeting, and that the Secretary should ask for propositions for discussion six months before the time of meeting. If the programme was not completed within three months of the time the President and Secretary should fill it.

Dr. Olliphant suggested that delegates could submit questions a year in advance.

The President suggested that the question should go over for another year.

A motion to table the question was made by Dr. Lee.

Dr. Cochran said we are running too much committee work. The usefulness of our organization depends upon its simplicity and flexibility. Without care we will be getting reports too bulky to publish. There is no necessity to publish mere compilations. What we want is the benefit of each individual's work and experience. What he knows and knows so well he can come here and talk on the subject without cramming for the discussion.

The motion to table the question proposed by Michigan was put and carried.

Dr. Olliphant extended a cordial invitation for the Conference to hold its next meeting in New Orleans.

The Secretary made a statement of the financial condition of the Conference.

On motion of Dr. Salomon it was voted to assess each State and Provincial Board of Health ten dollars, to be forwarded to the Treasurer.

The President announced that the election of officers and a paper by Dr. Vaughan would be the order of business for the evening session.

Adjourned to 8 P. M.

FOURTH SESSION.

The President. I would suggest that the Conference should now dispose of the question of time and place for its next meeting.

Dr. Metcalf moved that the next meeting be held at Washington.

Dr. Watson offered as a substitute that it be held in New Orleans on the third Tuesday in March, 1892.

Dr. Metcalf invited the Conference to meet at Indianapolis. Dr. Watson withdrew his motion, and a motion by Dr. Reeve to allow the officers of the Conference to select a time and place for the next meeting prevailed.

Dr. Bryce moved to proceed to the election of officers.

Carried.

Dr. Metcalf nominated Dr. J. N. McCormack for President, and moved that the Secretary be instructed to cast a ballot for the Conference for Dr. McCormack.

Carried.

The Secretary reported the ballot cast and Dr. McCormack elected President.

On motion Dr. C. O. Probst was elected Secretary by acclamation.

On motion Dr. Henry B. Baker was elected Treasurer by acclamation.

Dr. Vaughan, of Michigan, gave an entertaining talk on "What recent developments have been made in laboratory work of practical value to health boards."

Dr. Vaughan said if a health officer wants a sample of water examined he sends him from laboratory a sterilized bottle.

Determinations for hardness, ammonias, nitrates, nitriles and chlorides are made. Plate cultures are also made. At first he endeavored to study each germ present, but found that this took too long—weeks and months. Now, when the water comes in he immediately makes a plate culture and inoculates a tube of beef tea with a drop of the water. In twenty-four hours he injects some of the beef tea into the abdominal cavity of a white rat. If toxicogenic germs are present, the rat will likely die in twelve to twenty-four hours. Cultures are then made of the spleen, liver and kidney of the rat, and compared with the plate culture of the water. Corresponding germs are given further study.

In this manner he was able to make a report on the water within seventy-two hours. It was not altogether satisfactory, but more so than chemical analysis. He could not say that the germs which killed his rats would kill man, but people will not want to drink water that will kill rats. Rats are hard to kill, and the ordinary water germs will not do it. One hundred and nineteen official reports have been made so far, and in thirty-two instances toxicogenic germs have been found.

They are usually found in water which has apparently caused typhoid fever.

Duluth has just had about 1,500 cases of typhoid fever. We found a sewer within 500 feet of the intake pipe of their water-works.

An examination of their drinking water showed it to contain poisonous germs. Dr. Vaughan said he had also been working on poisonous cheese. He had not in three years found cheese containing tyrotoxin.

Many contained a poison which kills cats, but has no effect on man. Public sentiment, he said, was in favor of the laboratory.

Dr. Bryce stated that they had secured some funds for laboratory work. Hydrophobia in the Province last summer had created a sentiment in favor of such work. He learned of a case where a dog, suffering with hydrophobia, had bitten some cows and some pigs, and finally his master. The animals showed signs of paralysis of the muscles of the pharynx and larynx. He secured the head of a pig that was bitten, and endeavored to inoculate rabbits with the cord. He had failed, producing only septicaemia. The same experience was repeated with the head of one of the cows.

They had lately had an outbreak in hogs of a disease attended with gangrene in the joint, just above the hoof. The disease was communicable and acted somewhat like carbon. They had found what seemed to be the germ of the disease. He said they would try Dr. Vaughan's method of water analysis.

Dr. Vaughan, in answer to a question, said he did not believe that typhoid fever only comes from a pre-existing case of the same disease.

He thought water contaminated with the excretions of healthy persons may cause typhoid fever. He said sewage may flow long distances in streams without mixing with the stream. Little cities, ten miles below Detroit, have had typhoid fever, which attributed to the pollution of the water supply by sewage of Detroit. Dr. Vaughan said he thought we had many kinds of typhoid fever due to different germs. He had failed to find Eberth's germ in water that had caused typhoid. He said he did believe that one case of typhoid fever will produce another, but not that every case must have a preceding case. He considered it a dangerous theory to teach that water must be

specifically contaminated to produce typhoid fever. We should teach that filth in itself is dangerous.

The Committee on Consumption presented the following preliminary report:

To the President and Members of the Conference of State Boards:

GENTLEMEN—Your Committee begs leave to report the following resolutions:

1. That it is the opinion of this Conference that tuberculosis is a zymotic disease; that its germs are developed within the blood and tissues of man and various animals, and that these germs are capable of an existence external to the body for a number of months, especially in dried sputum, and in places where least exposed to the free action of the atmosphere and sunlight.

2. That the germs of tuberculosis are conveyed in various ways to persons and animals, the principal media of these being:

(a) Dust containing dried sputum.
(b) Food, either contaminated with infected particles, or the flesh of tuberculous animals.

(c) Milk from phthisical mothers and tuberculous cows.

3. That unsanitary conditions are the prime factors tending to the development of the disease, such as

(a) House and soil dampness.
(b) Lack of sunlight and bad ventilation.
(c) Bad plumbing and house drainage.
(d) Over-crowding in living rooms, in schools, in work-shops, in public institutions, etc.

4. That the disease is undoubtedly disseminated through the neglect to destroy or disinfect the sputa of the phthisical, distributed as this infectious matter is.

(a) On infected linen (dangerous to washer-women), clothing, carpets, etc.

(b) On the floors and walls of houses, work-shops, hospitals and hotels, especially of health resorts.

5. That to limit the spread of tuberculosis it is necessary that notification by physicians and householders of its existence be made compulsory, thereby enabling health authorities to examine into the sanitary surroundings of those affected, and to make provision for the adoption of the necessary precautions against infection to the healthy.

6. That municipal inspection of dressed meat and of dairy cattle be systematically carried out, and that the notification of the health authorities by owners of infected animals be made compulsory.

7. That municipal and State governments ought to aid in the work of limiting the disease by the establishment of institutions especially designed for the reception and treatment of the phthisical, and so situated that while minimizing the danger to the general community, they may likewise supply means for outdoor work and exercise, suited to the condition of different patients.

PETER H. BRICE, M. D., Ch'm.

LUCIEN F. SOLOMON, M. D.

Prof. V. C. VAUGHAN.

The President announced that the Committee on the Pollution of Rivers would be constituted as follows: Dr. L. F. Salomon, of Louisiana; Dr. C. A. Lindsley, of Connecticut; Dr. C. N. Metcalf, of Indiana; Dr. John H. Rauch, of Illinois, and Dr. Henry P. Walcut, of Massachusetts.

Dr. Bryce, as a delegate of the Conference to the International Congress of Forestry, held at Montreal, Quebec, submitted a report.

It was voted to continue all standing committees, and request them to report at the next meeting.

Adjourned *sine die*.

REPORT OF THE COMMITTEE OF THE AMERICAN PUBLIC HEALTH ASSOCIATION ON THE CAUSE AND PREVENTION OF DIPHTHERIA.

CHARLESTON, S. C., December 16 and 19, 1890.

Your committee appointed to report upon "The Cause and Prevention of Diphtheria" would remark, from the fact that so much has already been presented upon this subject to this Association in other years, that their efforts have been chiefly directed to a report upon the clinical and sanitary fields of observation.

Laboratory work, with its chemical, microscopical, biological, isolation, and inoculation tests, is highly important, and gives direction and accuracy to observation. But the facts, which prompt or are made clear by such work and theories deduced therefrom, find their ultimate interpretation and settlement at the bedsides, homes, and districts of the affected, in intelligent application. In public health concerns, the health officials stand as the clinical attendants and consultants, only going further for their public patients and patrons in the scope of their efforts, than private professional attendants can hope to do for theirs. For some cause, the public, including medical practitioners, has grown apathetic and hopeless in regard to the prevention of diphtheria to a degree not experienced toward any other disease. There is a submission to a yearly sickness, from the cause, of not less than forty thousand cases in the United States and Canada, with an annual death loss of at least ten thousand lives; and this, with little demonstration of organized resistance.

This condition probably has come from the observed limitations of curative agencies, and from the want of satisfactory demonstration that preventive measures can be adopted and made effective. Then, too, with the wide distribution of cases, and constant presence of the disease in almost all of our large communities, together with the knowledge that where one case is detected, dozens escape detection, has this feeling of hopelessness become established.

Can any one doubt that a similar number of cases and deaths from cholera, yellow fever, or other of the rapidly spreading epidemic diseases, would arouse us to utmost effort to limit and stamp out the destroyer? Yet it is from those diseases, which prevail so constantly that we are not surprised by them, that our greatest losses occur, and the lives thus lost are made to appear as being regarded of less value than those lost by sweeping epidemics, for whose suppression or prevention money and effort are expended without stint. No doubt this state of the public mind in respect to diphtheria could be dispelled, and replaced by one of energetic resistance and hope, could this Association, or any other body of competent investigators and leaders, be able to demonstrate specified causes or sources of this disease, which could be resisted and overcome by disinfection, inoculation, isolation, or by any other method compatible

with the well-being of those unaffected. Unless this can be done and confidence infused into preventive measures, this disease remains a constant reproach to sanitary science, and the public falls further into submissive inaction.

With this view before it, and to make its report concise, your committee has not deemed it necessary to cite much of the copious literature of diphtheria, to which all may have access; but, in order to reach the prevailing views of observers in this county at the present day, the following list of inquiries was prepared and distributed somewhat widely, with a request for a statement of opinions upon the points indicated.

The attempt was not made to secure as large a number of responses and opinions as possible, but rather to secure opinions from men known to have had experience and education in contact with the disease, and the discrimination to constitute them independent observers.

In republics sanitary law, like other provisions limiting or restraining individual action for the common welfare, can not be enforced much beyond enlightened public opinion.

And for this reason such opinion must be constantly "made" by presenting and interpreting the discoveries and teachings of students and observers. Ignorance because of pre-established views is, perhaps, the greatest danger and the most difficult to overcome in the advance of sanitary and preventive science. This, it appears to your committee, is especially true in respect to the present position of public opinion regarding diphtheria.

REPORTS RECEIVED FROM MEDICAL PRACTITIONERS IN THE STATES OF NEW YORK, OHIO, INDIANA, ILLINOIS, IOWA, NEBRASKA, KANSAS AND ARKANSAS.

(Edited by B. B. Longhead, M. D., Ravenna, Ohio.)

1. Is diphtheria dependent upon a specific cause?

Yes.....	93 per cent.
No.....	3½ per cent.
Not established.....	3½ per cent.

Of 272 cases of diphtheria collected by one observer one-third were traced to exposure to the disease, and forty-one other cases occurred in houses where cases of the disease had been at some previous time. One observer traced every case, excepting the first case, in an epidemic of over thirty cases in one school district, to contact with the disease or with those who had recently recovered from the disease. The large per cent. answering "yes" indicates that the specific origin of the disease is very commonly accepted. Those answering "no" ascribe the disease to atmospheric influences, producing catarrhs, and to debilitating influences, as bad food and water, impure air, etc.

2. If so, is such specific cause developed or preserved in other than albuminoid tissues and fluids?

DEVELOPED.

Yes.....	41½ per cent.
No	21½ per cent.
Unsettled.....	37 per cent.

PRESERVED.

Yes.....	52 per cent.
No	17½ per cent.
Unsettled	30½ per cent.

Many of those answering "yes" or "no" allowed the one answer to answer both questions. It is very doubtful if the meaning of the one answering so intended it.

Among the substances mentioned as preserving the specific cause are soil, filth, food, carpet, upholstered furniture, wall paper, clothes, sewage, etc.

The classification of the various micro-organisms being studied in connection with the various diseases (1), as those strictly "parasitic," i. e., requiring a living organism upon and from which their life, development, and reproduction depends; and (2) those termed "saprophytic," living upon dead matter not yet resolved into its elemental parts—we regard as especially important in its bearing upon this question and efforts to control diphtheria.

Experimental cultivation indicates that the diphtheria bacillus finds its best development in animal or vegetable albumen,

and may be preserved in it for a long time in a dried state. When it is considered how widely distributed the various forms of albumen are, it is quite sufficient to explain the opportunity the bacillus of diphtheria enjoys. Under this classification and representing our present knowledge, the bacillus of diphtheria is both parasitic and saprophytic.

It attacks healthy living tissue, and can be cultivated, developed and preserved in dead but not decomposed albuminoid substances.

3 By what media and channels does the specific cause gain entrance to the human organism?

Media: Air, food, water.....	90½ per cent.
Channels: Air passages, mouth, inoculation.....	90½ per cent.
Media and channels not known.....	9½ per cent.

The answer to this question establishes that the prevalent opinion among observers is that the nose and throat are the parts upon which the virus usually finds a lodgment.

Occasional cases are produced by inoculation either upon the skin where it is abraded, or upon the membrane of the mouth. A large per cent. believe the virus is conveyed by the air, by food, and by drinking water, but may be conveyed on the fingers, on spoons, knives, etc., used about the sick.

4. To what extent is there, and what especial conditions may constitute, individual predisposition to the disease?

Catarrh	29 per cent.
Debility.....	32½ per cent.
Age.....	16½ per cent.
Conditions and extent unknown.....	22½ per cent.

The extent of "individual predisposition" is ignored by a large majority of those answering, a few only considering that it may exist to considerable extent. Causes of disability are enumerated, as previous sickness, unsanitary surroundings, malarial poison, bad air, food, and water, scrofulous habits, etc. Childhood is considered an especial condition predisposing to the disease, and a small per cent. consider the disease much more fatal among fair-haired, light-eyed children, than among dark children, with dark hair and eyes. Of 19,824 cases collected there were:

- 7 per cent. under one year of age.
- 57 per cent. between one and five years.
- 28 per cent. between five and ten years.
- 5 per cent. between ten and twenty years.
- 2 per cent. between twenty and forty years.
- 6-10 per cent. between forty and sixty years.
- 4-10 per cent. over sixty years.

5. Is there reason to believe that the disease may be caused by germs, ptomaines, or products and conditions developed within the body, and independent of specific cause received from without?

- No.....80 per cent.
- Yes.....13 per cent.
- Still unsettled..... 7 per cent.

Those answering this question in the affirmative find themselves unable to account for the disease in isolated cases where no contagion can be traced, and hence argue that the specific cause may be developed within the body.

6. To what extent and for what length of time is isolation of persons "affected" with diphtheria regarded essential as a preventive measure?

But few mention the extent of isolation. Those who do would make it as complete as practicable. About five per cent. of the answers received mention the infected.

Those answering this part of the question vary from three to ten days.

With regard to time of isolation of those affected with diphtheria:

Twenty-three per cent. would isolate until complete recovery only.

Thirty-six and one-half per cent. would isolate from three days to two weeks after recovery only.

Thirty-four and one-half per cent. would isolate from two weeks to two months after recovery only.

Six per cent. do not consider isolation necessary.

The answers develop the greatest variety of practice in this matter. The classification above shows, as clearly as possible, in tabular form, the general sentiment in the medical profession.

By complete recovery, the answers explain, is meant complete disappearance of membrane, the affected mucous membranes becoming normal, complete restoration to vigorous health, etc.—the opinion as to what recovery means varying very greatly. Some answer that thorough disinfection takes the place of isolation after the pseudo-membrane disappears.

7. What substances and methods of disinfection are regarded reliable?

Most of the answers name more than one substance as reliable for disinfection. The percentage is computed on the number of persons answering.

<i>Substances.</i>	<i>Methods.</i>	
Sulphur.....	By fumigation.....	48 per cent.
Mercuric bichloride...	Solution.....	40 per cent.
Heat.....	Steam, hot air, boiling	35 per cent.
Carbolic acid.....	Solution, spray.....	16 per cent.
Free ventilation.....	Pure air.....	14 per cent.
No substances or methods reliable.....		5 per cent.

Many other substances are mentioned, as chlorine gas, chlorides, chloral hydrate, boric acid, resorcin four per cent., calcium chloride, etc. Those substances that are considered reliable germicides are in general the things mentioned.

8. Can disinfection be depended upon either to take the place or shorten the duration of isolation or quarantine?

Yes.....	27½ per cent.
Yes, to some extent.....	20 per cent.
No.....	52½ per cent.

It appears that observers are very equally divided with regard to the value of disinfection as a method of shortening or entirely supplanting isolation—forty-seven and one-third per cent. answering yes either to shorten or substitute isolation, while fifty-two and two-thirds per cent. think it should have no influence on the time of quarantine.

9. Should hospitals and stations be provided for isolation, disinfection, and treatment of cases of diphtheria for the protection of the public health?

Yes.....	58½ per cent.
Yes, in crowded districts.....	18½ per cent.
No.....	23½ per cent.

Three-fourths of the answers advise the establishment of such stations and hospitals, quite a per cent. believing they should only be restored to in the large cities and in tenement-house portion.

Some of those who answer "No" consider the matter impracticable because many cases are infants; because it prevails more in cold, wet weather, and removal is dangerous; because many mild cases are not recognized; because before a diagnosis is made the contagion is already spread; because removal would tend to expose others.

Scientific isolation of recognized cases of diphtheria is rarely, if ever, secured in private homes. Disinfection of bedding, clothing and all articles coming in direct contact with the sick, or closely associated with them, require special methods and apparatus to be made reliable. Therefore, whether hospitals for compulsory treatment can wisely be instituted or not, disinfection stations can and should be erected and operated at the public expense. The value and duration of isolation can be determined only when made scientifically complete. The same is true of disinfection.

10. What climate limitations are known as affecting the development and spread of diphtheria?

None known.....	58 per cent.
Cold, damp weather	28 per cent.
Temperate zone	8 per cent.
Changeable weather.....	6 per cent.

The condition of atmosphere noted by many as favoring the spread of diphtheria is cold and damp—some considering such weather as increasing catarrhal troubles, and hence favoring the spread of the disease. The President of the Board of Health of Hot Springs, Arkansas, reports that they have no diphtheria in that city.

The answers indicate that while the majority of observers consider that there is no known climatic limitations affecting either the development or the spread of the disease, yet many consider the cold, wet weather of fall and spring conducive to its prevalence.

11. To what extent are domestic or other animals and fowls liable to diphtheria and to become sources of infection to human beings?

Domestic animals and fowls are liable to diphtheria, and are sources of infection to a considerable extent.....	41 per cent.
To but slight extent.....	18 per cent.
Not at all.....	6 per cent.
No evidence that they are either.....	35 per cent.

Nearly sixty per cent. believe that domestic animals and fowls are liable to the disease, and that they convey the infection to human beings to a greater or less extent. Dogs, cats, swine, cows and chickens are mentioned as subjects of the disease. They may not only convey the disease by direct contact, but they may be carriers of the contagion in their hair and feathers. This is spoken of as especially true of the dog and cat, which are likely to be fondled by children suffering from diphtheria.

In order to bring the sentiments of these observers before the Association in a form easily grasped, your committee would submit the following brief resume of facts and opinions gathered from a careful study of the responses to the series of questions submitted to observers scattered over a large portion of the United States.

It is the generally accepted belief that diphtheria is dependent upon a specific germ. Less than one-half believe this specific cause is developed in other than albuminoid substances, and almost an equal number consider the question of its development still unsettled. Over one-half believe that the specific cause is preserved in other than albuminoid substances.

Air, water and food are the media by which the virus gains entrance to the organism, and the air passages, mouth and throat are the channels; occasional cases arise from inoculation through carelessness or uncleanness.

A great variety of conditions increase individual susceptibility.

They prevail in frequency in the order named—nasal and pharyngeal catarrh, debility from any cause, age, etc.

Many consider the disease much more fatal in scrofulous children with light hair and eyes, than in those having dark skin, hair and eyes.

The general opinion prevails that the disease is never caused by any agent developed within the body, but is always from without.

All but a very small per cent. consider that those affected with diphtheria should be carefully isolated, at least until all traces of the disease have disappeared, while many would isolate from one to eight weeks after recovery.

Sulphur, mercuric bichloride, heat, carbolic acid, and pure air, in the order named, are the substances considered most reliable for disinfection.

Sulphur in the form of sulphurous acid made by burning sulphur in the presence of moisture, mercuric bi-chloride and carbolic acid in solution, free ventilation, heat in form of steam, boiling water and dry heat are the methods by which these substances should be used.

Only a small per cent. considered disinfectants sufficiently reliable to make it safe to do away with isolation entirely, although many think the time of isolation may be safely shortened where thorough disinfection is used. A very large per cent. believe public health demands the maintenance of hospitals for isolation and treatment of those affected with diphtheria. More especially are such hospitals needed in the crowded portions of cities and among the poor where proper care can not be afforded. Such hospitals would also be of great service where the disease has become epidemic, and would enable the sanitary officers to stamp out the disease.

There are no climatic limitations known as affecting either the development or the spread of diphtheria. It has been found to be most prevalent in the cold, damp months of the late fall and early spring, but catarrhal affections also prevail more at that season, and diphtheria may find easier access to the human system because of the already diseased membranes.

Domestic animals and fowls are believed by the majority of observers to be liable to the disease. Many of those answering the question have themselves observed cases of diphtheria in dogs, cats and the common barnyard fowls, and have traced cases in human beings to these animals. They may also be the medium by which germs of the disease are carried from person to person or from house to house, the fur of the dog and cat being an excellent vehicle for conveying the virus.

The investigations of Bretonneau, Trousseau, Virchow, Oertel, Mackenzie, Klebs, Wood, Formad, Sternberg, Loeffler, Prudden, Northrup, Koch and many others of recent times, in and by strictly scientific methods, have led up to and perhaps

have demonstrated a specific cause for diphtheria, and their conclusions, spread through the writings of the last thirty or forty years, can not fail to have made an impression on all students. Yet the fact remains that so much difficulty has been experienced in reconciling the facts observed in this field of disease with the conclusions of these students in laboratories and hospitals as to beget a very conservative and even doubting state of mind among thoughtful observers on many of the points presented.

As a practical question in preventive medicine, the determination of the cause or causes is imperative—the basis of all action. The more early, precise, and exhaustive such determination can be made, the more direct and hopeful the application of preventive measures.

It can not truthfully be said that no advance has been made in this matter in late years. On the contrary, in the whole field of research in respect to the micro-organisms found actively associated with various diseases, most painstaking and exhaustive process have been applied to the discovery, classification, and life history of each and every species, with great additions to our knowledge of the subject. Perhaps the most important point developed in this field in most recent times, has been the significance attaching to the products of these organisms, during their process of development and activity, under favorable conditions. Such products appear to bear a very casual relation to the phenomena of many diseases, and also have been observed to limit the action and life of the producing organism, when sufficiently concentrated. On another side of this subject, it has been made safe to say that not only has every living organism a certain natural and, in a measure, selective habitat, nutriment, method of reproduction, and tolerance of variation from its norm, but also has its own special defences against other organisms.

And while an attack may be overwhelming mechanically, or, by reason of numbers simply, overcome such normal resistance, there can be no other logical conclusion than that the general or special resistance of one organism toward another can be increased or diminished.

A part of such resistance, by the human organism, has been observed to be a process of reception and destruction of certain micro-organisms, by cell and gland action, resembling a form

of digestion. To secure and retain such resisting cell and gland functions, together with integrity of tissues, the human organism must be in no defective state.

The impairment of disease resistance may and does come from so many varying causes and channels, and is so difficult of recognition and estimation of its significance, as to be still restricted to general terms in description, and only of general application in preventive efforts. And, although admitted to be "general," as indicated, no process of reasoning can or should lessen the force of the universal law, that well organized, developed, and nourished living structures resist the entrance of all external agents calculated to injure or destroy them better and longer than those of inferior organization, imperfectly developed and poorly nourished.

On the question of specificity in diphtheria, the recent work of Roux and Yersin in France, and Loeffler in Germany, gives, perhaps, the index and conclusion to bacteriological work in this field up to the present day. For the purpose of giving such work its proper recognition and value, and at the same time giving opportunity to compare their conclusions with the result of observations of the course and spread of the disease in this country, extracts are here cited. In the "Annals of the Pasteur Institute," MM. Roux and Yersin state it as their opinion that the Klebs-Loeffler bacillus is so specifically identified as a cause of diphtheria as to render it necessary that all practicing physicians should be able to isolate and identify this bacillus.

They themselves have made or verified the diagnoses of diphtheria by this method in more than a hundred cases, and they think that not until diagnoses are made in this way will thoroughly scientific results be obtained. In order to stain the bacillus so that it can readily be seen and studied under the microscope, it is merely necessary to move a small fragment of the false membrane, by means of a piece of absorbent cotton-wool tied firmly to a pair of forceps, or any other safe carrier, from which it is transferred to a scrap of blotting paper, and thence to a cover glass, where it is broken down as finely as possible, heated over a flame, and stained methyl blue or gentian violet, washing thoroughly with water before examining. They say that the diphtheria bacillus appears to "stain" more rapidly and deeply than any of the indifferent organisms

associated, and among which they can be seen grouped in small masses as short, straight, or curved rods with slightly thinned or rounded ends.

In some instances they appear slightly clubbed or pear shape; and they may be granular and unequally stained. They assert that, in true diphtheria, these bacilli are never absent, and with a little practice it is easy to distinguish them from all other forms. This examination may be completed in a few minutes, and gives, when confirmed by culture experiments, the most precise information. Even the course and prognosis of the disease may be followed and indicated by the daily use of the microscope upon the exudate and secretions.

Where improvement is taking place the specific bacilli becomes less numerous, while other associated microbes become increased in number. These writers assert that some of the associated microbes appear to interfere with the growth and activity of the specific bacillus. These bacilli retain their vitality, when dried, for considerable time, and withstand a temperature of 98 degrees C. (208 degrees F.) for a whole hour. As a very obvious point in practical application Roux and Yersin, together with Loeffler and many others, state that "the best method of arresting the spread of diphtheria is to recognize the disease as early as possible. This can be done by microscopic examination, confirmed by cultivations on blood serum, both of which can be made available in twenty-four hours in private practice and by ordinary practitioners of medicine. Active diphtheritic virus can remain in the mouth of the affected for a long time after the malady is apparently cured. Consequently diphtheritic should be allowed to resume their ordinary course of life only when they are no longer bearers of the bacillus. The virus retains its vitality a long time when kept in a dried state and when not freely exposed to air, and it is therefore necessary to disinfect, in a steam sterilizing apparatus, the linen and all articles that have been in contact with diphtheritic patients. The attenuated virus of diphtheria is widely distributed, and really regains its virulence under favorable conditions. It is therefore necessary that at the commencement of simple forms of sore throat antiseptics should be applied carefully and thoroughly." Klein and some others maintain that domestic animals, including cats, dogs, cows, and some fowls, are affected with the true

diphtheritic virus, while Loeffler and others regard the disease to which such animals and fowls are subject as a separate and distinct disease. Experiments appear to demonstrate, however, that certain animals such as guinea-pigs, rabbits, young dogs, etc., are easily susceptible to the true diphtheritic bacillus.

In conclusion, and for the purpose of exerting some influence upon public opinion respecting the cause and prevention of diphtheria, your committee would respectfully offer the following propositions to the Association, which they hope may be adopted :

First. We recognize the disease known as diphtheria to be due to a specific cause, owing to which all cases become dangerous as sources of contagion and infection.

Second. For the prevention of diphtheria isolation of those affected and infected should be made scientifically complete in all cases; and we believe that by such isolation of all recognized cases the spread can be immediately checked.

Third. That while it may not be possible to secure prompt recognition and isolation of all cases of diphtheria in the present state of knowledge and opinion, we believe it the duty of local boards of health officials to provide stations, apparatus and agents for the reliable disinfection of all bedding, clothing and articles which may be the holders and carriers of diphtheritic virus, such disinfection to be done at the public expense and under official control.

DETAILED SUGGESTIONS FOR THE APPLICATION
OF EFFICIENT MEANS FOR CLEANSING AND
DISINFECTING CLOTHING, FURNITURE
AND PREMISES WHICH HAVE BEEN
EXPOSED TO THE INFECTION
OF DIPHTHERIA.

DISINFECTION OF CLOTHING BY HEAT.

All infected articles before handling or moving should be moistened with a watery solution of carbolic acid, or even water alone, to prevent germs of the disease passing into the air and thus becoming disseminated, and also to protect those engaged in the work of disinfection.

All small and inexpensive articles and cloths which can be spared without serious inconvenience should be destroyed at once by burning.

Other articles of clothing, bedding, carpets, rugs and all textile fabrics should be placed in sufficient water to cover them and boiled fully one hour.

Mattresses and "ticks" should be ripped open, the covers boiled and the contents replaced in unsoiled condition. If the contents have been soiled they should be destroyed. Carpets should be ripped into separate breadths and boiled. After boiling as indicated all such goods should be hung in the open air and sunlight for two or more days. "Ironing" all such goods while moist, with an "iron" kept as hot as the goods will bear without scorching, develops steam under some pressure, and will disinfect in a measure, but will not take the place of prolonged boiling. "Steam," under a pressure of twenty-five pounds to the square inch, will take the place of boiling where it can be applied.

"Dry heat," applied in chambers prepared for the purpose, and in which the goods are heated in all portions to a temperature of 230° F. for one hour, will serve the purpose where boiling and steam under pressure can not be used.

DISINFECTION OF CLOTHING BY CHEMICAL AGENTS.

No. 1. A solution of carbolic acid prepared by placing three teaspoonfuls of the acid to each quart of water used (and thoroughly shaken); or,

No. 2. A solution of "corrosive sublimate" prepared by dissolving two drams of the crystals in each gallon of water used; or,

No. 3. A solution of chloride of zinc prepared by dissolving two ounces of the crystals to each gallon of water used.

Into either of which solutions the goods and fabrics should be placed and kept under water for twenty-four hours.

Sulphur gas, produced by burning two pounds of sulphur for every one thousand cubic feet of space, with sufficient steam escaping in the room to moisten the air and surfaces, is a powerful disinfectant; but such gas in a tight chamber in the presence of sufficient moisture to be effective will injure and destroy clothing.

Any of the above chemical agents require caution in their use, as taken internally they become dangerous to life.

DISINFECTION OF FURNITURE.

This includes the bedsteads, chairs, vessels, and dishes, and all upholstered and movable articles. These should be washed in the solution of No. 1 (carbolic acid), prescribed for clothing, with thorough sponging of the upholstered portions.

After washing and sponging, the bedsteads, chairs, and all articles chiefly of wood should be allowed to stand, without wiping or rinsing, in the open air for twenty-four hours or more. All earthen, tin, or iron vessels, dishes, or utensils should be first washed in the solution, and then placed in an oven or other chamber and heated to as high a degree as they will bear without injury. After this treatment, all such furniture should be thoroughly rinsed, and the rinsing water carefully saved and boiled for one hour before being thrown upon the ground or into sewers or drains.

DISINFECTION OF PREMISES.

The room or rooms should be tightly closed, after clothing and furniture (as indicated before) have been removed, and all metallic surfaces, such as gas fixtures, mouldings, etc., coated with an ointment made of carbolic acid one part, vaseline fifteen parts. Then sulphur should be burned in the rooms at the rate of two pounds to one thousand cubic feet of air space, with steam enough to thoroughly moisten the air and surfaces. Steam sufficient can be developed by placing three or four hot bricks in a tub of water. The sulphur gas should be kept in the room for twenty-four hours. After thus fumigating the rooms, the floors, baseboards, doors and casings, windows and casings, and every portion of wood-work should be washed with solution No. 2, prescribed for clothing. The walls and ceiling, if papered, should be carefully scraped, and the fragments immediately burned.

Then the walls should be thoroughly coated with a quick-lime wash, and the outer air and sunlight be permitted to enter freely for one or more days. In cases where expensive papers are on infected rooms, a coating of light varnish may replace the work of removing the paper.

Diligent search should be made for any inlet into the building which may convey or permit the entrance of air from any

sewer, drain, closed cellar or basement, or damp, dark place of any kind under the building or connected to it in any way. If any such inlet is found, or any such place where air is confined, such inlet should be properly closed, and any damp, dark place underneath the building opened up to air and sunlight; and in addition, all such drains and places should be disinfected by a solution of the chloride of lime, two ounces to the gallon of water. Sulphur may be burned in such places as prescribed for rooms.

Outside the building all pools of either rain, soil, or slop water near the building should be abated by draining and filling.

An excessive soil saturation and retention of water should be relieved by draining. Any accumulation of garbage, decomposing animal or vegetable substances, muck or dust, should be carted away and burned.

Also the contents of cesspools, vaults, pits and ash heaps, where refuse matters have been thrown, should be carted away and all such places made sweet and clean. These places can be disinfected by the use of chloride of lime in solution as prescribed, or in moist places by sprinkling the lime over the surfaces. All dark, damp pits, vaults, drains, rooms, spaces under the boiling or near it, should be freely opened to the outer air, thoroughly cleaned, and kept so.

The care and treatment of persons sick with diphtheria, both at the time of their sickness and for some time after all signs of the disease have disappeared, are of the utmost importance to promote recovery and diminish the work of disinfection.

A constant use of substances known to be destructive to the bacillus and virus of diphtheria during the course of the disease, by washes, gargles, and spray with steam upon the diseased surfaces, prevents the escape of the virus to surrounding objects. The complete isolation of the affected, the removal of all unnecessary articles of clothing and furniture from the sick-room, the prompt attention to and destruction of all secretions and excretions expelled, the free admission of sunlight and pure air to the sick room will diminish the extent and labor of disinfection.

The duration of isolation of persons affected with diphtheria should extend so long as any of the bacilli are present in the

secretion; and as this fact can not be determined without repeated skillful, microscopic examinations, the affected individuals should be kept strictly isolated for not less than four weeks after the disappearance of all traces of membrane.

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DEATH RATE COMPARISONS AND HINTS TO HOUSE-OWNERS.

PARIS.—Nearly all of the large cities of Europe have a lower death rate than the cities of America. In the American cities local sanitary apparatus, such as water-closets, sinks and bath connections, are much superior to those of the continental cities. In England and Scotland plumbing work generally is good, but not so well planned or so well carried out as with us. In neither country are the same precautions taken to protect the inhabitants of houses from sewer gas and other poisons as with us. The fact remains, however, that statistics in all sections show a generally lower death rate than in American towns and cities. Is it true, then, that our good plumbing avails nothing? That we are spending our money not wisely? Are we doing an unnecessary thing? Not so. Our plumbing work reduces the death rate to a lower percentage than it otherwise would be. We profit largely by it.

In respect to sanitation on the interior of our buildings we are in advance of all European countries. With respect to sanitation on the exterior of buildings, they are largely in advance of us.

In this is to be found the accounting facts which make the difference in the death rate of the two countries—Europe and America.

We suffer because our sewerage systems, our street cleaning methods and general out-door sanitation is inferior.

One may live in a house where the plumbing work is accurate in every way, yet he may suffer from fevers, his children may die of diphtheria, and there may be general suffering from filth diseases.

The house in which he lives is in every way satisfactory.

The street in front of his house and the alley in the rear of it are unswept and unclean. He is lying in a state of civilization, as far as the interior of his house goes. Barbarous conditions surround him, however. A street which is polluted with all the foulness which may come to it, without cleaning, soon reaches the point of saturation and gives off its foulness at all times. Unclean alleys, stables and the like surround a well-cared for home, with impurities and disease-spreading conditions. This makes a death rate in the principal cities of America, which is greater than that of the principal cities of Europe, which are behind us in certain sanitary arrangements and far ahead of us in others. One could give special statistics to show the difference in the death rate of London, Berlin, Vienna, Rome and the great cities of America. References to special statistics are not necessary in this connection. The facts remain.

It costs something to keep a city clean; it costs something to leave it dirty. The death rate is not the full measure of the cost.

There is the corresponding suffering; there is the illness of many, the weakened working force. If we were to consider this latter purely as a matter of business, and disregard all questions of sentiment, such as the loss of relatives and friends, we could see clearly enough that the cost of clean streets would be much less than the loss by unclean streets. The increased working force of strong, healthy people of those who work and earn money, the saving of time and energy now expended in the care of others, and the expenses which come to all in connection with the care of those who are ill and weak would much more than meet the increased tax required to bring about the highest character of out-door sanitation. In a city where the streets are not clean and the alleys and other surroundings not properly cared for, there is no possible means of escaping the foulness. Foul outdoor air soon becomes foul air on the inside of a house; one can not shut it out.

On the other hand, if the plumbing work is not well done in a city where the streets are clean and the outdoor sanitation good, there is a chance of escape for all. Doors may be closed to cut off bad plumbing, windows opened for ventilation and altogether immunity may be secured from bad plumbing much more readily than from bad outdoor air. It is measurably true that one can escape from bad plumbing as it is positively true that one can never escape from bad outdoor sanitation. The magazines, the newspapers, and all public journals and periodicals have drummed the plumbing idea into people's heads. Every one is on the lookout for bad plumbing. People are fully alive to its benefits. They insist on it and get it. The greatest evil, however, has been neglected. While we have been purifying the inside of the house we have the unclean garbage barrel in the back-yard, possibly an open vault, a muddy, unclean alley, a manure pile, a neglected chicken-house, and streets and other surroundings which are rarely properly cleaned and garnished.

The work of the public periodicals, which have saturated people with the benefits of good plumbing and indoor sanitation, is in every way commendable. However, it has not gone far enough. Part of the field only has been covered, and it appears that that part of greatest importance has been neglected. The newspapers and periodicals will be the instrument to improved outdoor sanitation. One article in a newspaper about clean streets, adequate sewer arrangements and other efforts to cleanliness will do more good and accomplish more than any large number of the articles in scientific or sanitary periodicals which are seen only by experts. There must be a public understanding of the evils of foul exterior surroundings before the expert has his work to do. The newspapers educate the people along the line of sanitary engineering. The sanitary periodicals and the special scientific journals keep the engineers informed of the latest methods.

There must be a public demand before there can be special supply.

In many towns where the stables are built in the rear of the houses, we have frequent stable fires. There is then talk of incendiarism, it is known that there was no fire about the stable; hence, it is assumed that it must have been set on fire. Most

of these so-called incendiary stable fires are filth fires; spontaneous combustion fires.

The Factory Mutual Insurance organization of the New England, which probably has the best record of facts and statistics of fires of any insurance organization in the world, states that spontaneous combustion causes more loss by fire than all other causes combined.

Understand, this statement is not that it causes more fires than but rather that it causes greater loss. Fires which occur in the natural course of things are reasonably certain to originate when some one is around.

But spontaneous combustion fires may happen at any time, in the middle of the night or in inaccessible parts of the building. Stable fires may and do originate from manure, frease and accumulations which are so common to these structures, which, because they are stables, are oftentimes neglected. If we look among our friends at home who keep very clean stables, who are phenomenally fond of their horses, we will call to mind that they rarely or never have trouble from stable fires. The way many of our stables are built with the open board floors under the stalls, and no adequate ventilation, cleanliness is hardly possible and the conditions for spontaneous combustion generally favorable. Spontaneous combustion is one of the outgrowths of filth. Thus another of the expenses of cleanliness is apparent.

Municipal tax is less where streets and alleys are left dirty, where there is no sewerage system, than when the streets are well cleaned and all the requirements of high sanitation are met. The personal tax, the individual drain, however, is greater. One spends money for his own household in large sums with much less reluctance than he pays his taxes. There can be no doubt but that money paid out for taxes is rarely given freely. It is one of the things that people do not like to do, and like all other matters which have a large public expression in this way, there is reason at the bottom of it.

One rarely or never hears objection to the municipal tax of Paris. The same is true of Glasgow. People get some return for it.

Wherever there is a good civil service, when money paid in taxes is properly and intelligently expended, we do not find objections to their payment.

Under the spoils system, under the system where money is carelessly or wastefully expended, where every dollar does not bring its just return, there are natural and just objections to the payment of taxes.

However, if one felt that the money which he paid into the municipal or other public treasury would be cared for just as wisely and intelligently as he would spend the money for his own benefit, there would be little real objection to any reasonable tax. One sees a very clear exemplification of this fact in all of the well cared for cities and towns on this side.

LOUIS H. GIBSON.

MARRIAGES.

The whole number of marriages returned for the statistical year closing September 30, 1891, is 20,048—1,208 more than was reported the preceding year. 19,618 of the contracting parties were white and 430 colored; 17,977 grooms and 18,262 brides were Americans; 1,121 grooms and 807 brides were foreign born. The nationality of 950 grooms and 979 brides was not reported. There were 316 grooms and 4,660 brides under 20 years, 65 grooms and 15 brides were between 70 and 80, and 10 grooms and 1 bride were over 80 years.

TABLE A.

Marriages by Months, Color and Nationality for the Year Ending September 30, 1891.

COUNTIES.	Total.	1891.												COLOR.		NATIONALITY.				NOT REPORTED.	
		1890.						1891.						White.	Black.	AMERICAN.		FOREIGN.		Groom.	Bride.
		October.	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.	September.			Groom.	Bride.	Groom.	Bride.		
Adams.	166	19	15	13	15	10	16	16	14	11	9	15	13	166	..	147	159	19	4	..	3
Allen.	435	71	60	35	38	34	26	45	33	18	18	88	25	433	4	353	361	65	58	17	16
Bartholomew.	256	24	24	21	13	19	16	25	9	29	15	17	44	252	..	247	249	8	7	1	..
Benton.	110	12	7	15	22	10	8	13	2	2	1	9	7	110	..	100	104	9	4	..	2
Blackford.	86	5	6	21	8	11	11	3	4	2	5	4	6	86	..	86	86	..	..	..	..
Boone.	281	28	19	32	23	26	25	23	23	12	17	25	20	280	1	279	281	2	..	..	..
Brown.	88	7	7	11	18	8	4	6	4	4	9	5	5	88	..	88	88	..	..	..	..
Carroll.	177	12	15	19	15	12	16	12	15	9	12	13	27	177	..	148	130	26	46	3	1
Cass.	267	28	28	41	28	19	26	23	19	14	10	15	15	262	..	226	228	24	22	17	17
Clark.	539	75	57	63	24	51	37	33	63	53	30	16	37	488	51	344	344	..	..	195	195
Clay.	306	23	23	32	24	28	21	23	23	20	33	27	30	306	..	291	292	13	12	2	2
Clinton.	304	33	19	29	29	24	22	20	19	9	17	37	22	301	..	288	262	1	4	15	18
Crawford.	115	8	3	8	16	9	22	7	13	9	7	6	7	115	..	105	111	10	2	..	2
Davies.	211	45	21	16	14	12	17	15	14	9	14	14	20	204	7	207	206	2	3	..	2
Dearborn.	251	23	23	30	17	18	23	24	27	21	6	14	25	251	..	251	251	..	..	..	..
Decatur.	169	20	11	17	21	17	18	7	12	7	11	12	16	169	..	165	166	4	8	..	..
Dekalb.	279	18	22	14	21	31	31	36	21	17	11	25	22	279	..	270	267	9	12	..	..
Delaware.	283	35	12	14	25	26	20	10	22	18	19	25	34	258	6	258	259	5	9	..	3
Dubois.	185	28	15	10	22	9	9	40	17	10	6	10	11	183	1	179	182	6	6	..	..
Elkhart.	355	52	30	11	42	43	23	29	29	26	18	32	20	353	2	276	260	47	42	32	23
Fayette.	85	11	7	11	9	13	6	5	10	9	3	8	3	85	7	82	83	10	10	8	8
Floyd.	268	13	7	14	36	22	28	25	19	20	27	40	23	251	15	237	242	34	21	5	3
Fountain.	243	23	15	17	23	22	27	11	16	22	17	27	16	168	8	168	170	8	8	72	72
Franklin.	132	20	13	5	13	14	7	14	8	6	7	9	9	132	..	123	123	9	8	..	..
Fulton.	183	24	23	32	13	16	13	17	8	9	9	6	19	183	..	167	166	1	2	..	..

Gibson	262	23	21	19	16	20	27	17	20	13	22	30	255	7	251	240	10	1	1
Grant	281	34	17	25	26	17	28	17	14	28	27	19	272	9	275	278	6	1	1
Greene	250	24	25	6	26	20	27	17	24	19	27	19	250	5	249	250	1	1	1
Hamilton	284	32	18	39	21	17	23	14	11	20	17	16	259	5	260	260	2	1	1
Hancock	153	15	12	21	18	17	14	2	9	10	18	23	152	5	150	152	3	1	1
Harrison	153	14	11	16	12	13	11	8	9	7	15	23	153	5	157	153	1	1	1
Henricks	163	7	4	29	5	8	32	13	5	12	7	8	161	2	160	162	3	1	1
Henry	231	31	17	27	25	10	19	13	5	16	14	8	227	4	231	230	1	1	1
Howard	242	22	25	12	21	17	18	16	15	25	7	25	241	1	240	240	1	1	1
Huntington	229	31	24	17	21	19	27	16	17	9	17	21	229	1	219	224	10	1	1
Huntington	216	35	10	17	14	12	31	11	11	21	7	12	216	1	208	214	8	2	1
Jackson	216	35	10	17	14	12	31	11	11	21	7	12	216	1	208	214	8	2	1
Jasper	91	15	13	19	6	5	7	3	5	2	8	23	91	1	81	83	6	3	1
Jay	200	16	14	22	14	11	22	8	14	18	16	13	199	1	199	200	1	1	1
Jefferson	310	22	23	24	14	21	23	11	90	13	20	25	310	1	117	117	3	1	193
Jennings	111	2	23	18	11	9	21	7	15	1	4	9	110	1	108	117	1	1	1
Johnson	172	18	21	12	9	12	20	15	7	10	12	19	169	3	95	95	1	1	77
Knox	334	27	52	28	19	19	25	20	9	18	36	39	330	4	151	151	3	1	183
Kosciusko	258	27	19	25	30	23	16	5	15	15	28	23	258	1	252	250	3	1	5
Lagrange	134	16	7	8	14	12	12	6	11	9	11	10	134	1	130	133	4	1	1
Lake	156	11	22	13	14	5	17	16	12	12	13	15	156	1	89	99	67	57	1
Laporte	222	19	14	28	10	17	19	24	10	13	19	13	209	3	144	171	73	48	3
Lawrence	212	26	16	22	13	17	39	21	9	13	24	24	209	3	206	209	6	6	3
Madison	355	30	52	31	23	23	18	29	15	21	61	34	353	5	347	352	11	9	19
Marion	1,090	110	90	52	77	76	106	111	84	54	117	117	1,008	82	914	981	159	90	17
Marshall	237	15	37	21	24	21	20	17	9	19	13	19	237	1	226	228	11	9	1
Martin	150	14	20	14	9	1	23	16	15	13	5	5	150	1	149	149	11	1	1
Miami	222	16	24	12	13	13	39	11	16	13	13	21	222	1	205	213	16	6	3
Monroe	150	15	18	7	15	7	14	16	12	14	10	10	148	2	150	150	1	1	1
Montgomery	230	14	14	24	22	23	22	12	13	28	26	16	239	1	230	230	4	2	1
Morgan	216	29	8	23	22	23	10	12	13	22	26	16	214	2	212	214	2	2	1
Newton	70	9	7	10	7	7	1	6	5	3	3	5	70	1	58	59	11	10	1
Noble	197	17	29	18	7	9	13	2	12	18	11	13	197	1	185	192	10	3	2
Ohio	62	9	10	5	5	4	2	3	7	1	6	9	60	2	58	58	4	4	1
Orange	149	9	32	8	12	9	9	3	7	26	12	10	149	3	149	149	2	2	1
Owen	146	7	9	13	12	12	26	18	13	7	22	14	143	3	144	146	6	2	1
Parke	173	20	11	22	13	9	18	10	8	19	22	14	172	1	167	170	2	2	1
Perry	171	17	15	20	11	9	17	18	5	8	15	9	167	4	163	166	7	4	1
Pike	169	22	20	12	11	3	16	6	11	23	7	23	169	1	164	169	5	5	1
Porter	138	17	5	19	14	7	18	6	11	9	27	23	138	1	105	114	30	23	2
Posey	249	25	24	18	19	13	40	11	18	10	21	35	242	13	242	247	7	4	1
Pulaski	78	17	10	5	14	4	40	6	13	14	13	5	78	4	72	74	6	4	1
Putnam	192	28	20	17	9	17	15	6	14	14	22	22	188	4	188	187	8	4	1
Randolph	276	21	21	37	28	15	32	12	9	22	22	12	272	4	275	275	1	1	1

TABLE B.

Marriages, Grouped Ages, for the Year Ending September 30, 1891.

COUNTIES.	GROUPED AGES.																	
	Under 20.		20 to 30.		30 to 40.		40 to 50.		50 to 60.		60 to 70.		70 to 80.		Over 80.		Not Reported.	
	Groom.	Bride.	Groom.	Bride.	Groom.	Bride.	Groom.	Bride.	Groom.	Bride.	Groom.	Bride.	Groom.	Bride.	Groom.	Bride.	Groom.	Bride.
Total.	166	1	36	118	104	28	15	12	6	3	4	2	2	2	1	1	3	3
Adams	166	1	36	118	104	28	15	12	6	3	4	2	2	2	1	1	3	3
Allen	435	2	78	311	260	88	36	17	10	10	4	4	1	1	4	4	2	2
Bartolomew	256	2	78	175	133	52	31	9	7	2	4	4	1	1	1	1	1	1
Benton	110	1	22	73	73	21	11	5	1	1	2	2	2	2	1	1	1	1
Blackford	86	1	25	50	46	27	14	6	1	1	1	1	1	1	1	1	1	1
Boone	281	1	84	179	152	64	32	18	11	13	1	5	1	1	1	1	1	1
Brown	88	16	62	65	79	55	23	31	8	6	2	1	1	1	88	88	88	88
Carroll	177	4	73	203	156	41	23	5	5	3	5	4	1	2	5	5	5	5
Cass	267	1	73	203	156	41	23	5	5	3	5	4	1	2	5	5	5	5
Clark	539	1	73	203	156	41	23	5	5	3	5	4	1	2	5	5	5	5
Clay	304	2	51	153	216	121	31	26	6	3	1	1	1	1	19	17	17	17
Clinch	304	2	51	153	216	121	31	26	6	3	1	1	1	1	19	17	17	17
Crawford	115	5	43	76	135	15	16	10	6	12	5	6	1	1	4	4	4	4
Davies	211	4	55	135	177	98	23	19	6	8	4	2	2	1	4	4	4	4
Dearborn	251	1	50	50	50	4	4	4	4	4	4	4	4	4	193	183	183	183
Decatur	169	3	42	105	88	36	13	8	10	4	1	10	1	1	3	13	13	13
DeKalb	279	12	85	190	123	30	17	8	7	4	1	4	1	1	33	43	43	43
Delaware	263	5	78	199	161	40	14	12	6	6	3	3	1	1	1	1	1	1
Dubois	185	2	27	137	138	30	12	12	5	6	3	3	1	1	2	2	2	2
Elkhart	355	2	62	252	236	71	39	16	16	7	1	4	1	1	2	2	2	2
Fayette	95	1	14	74	67	12	6	5	5	2	2	1	1	1	87	87	87	87
Floyd	266	12	57	101	78	45	33	17	11	3	1	1	1	1	75	75	75	75
Franklin	132	5	46	123	102	16	11	13	10	9	1	1	1	1	1	1	1	1
Franklin	132	5	46	123	102	16	11	13	10	9	1	1	1	1	1	1	1	1
Fulton	188	1	51	134	109	32	17	5	5	7	2	2	2	2	1	1	1	1

TABLE B—Continued.

COUNTIES.	Total.	GROUPED AGES.											
		Under 20.		20 to 30.		30 to 40.		40 to 50.		50 to 60.		60 to 70.	
		Groom.	Bride.	Groom.	Bride.	Groom.	Bride.	Groom.	Bride.	Groom.	Bride.	Groom.	Bride.
Gibson	292	5	67	186	163	51	24	10	7	8	2	1	1
Grant	281	12	68	184	158	39	28	28	14	15	3	1	1
Greene	250	12	78	157	133	52	26	18	8	7	4	1	1
Hamilton	261	4	75	183	147	48	33	23	5	4	1	1	1
Hancock	153	1	47	107	84	23	13	13	6	3	1	1	1
Harrison	158	1	39	113	92	29	15	8	9	3	1	1	1
Hendricks	163	2	41	111	93	32	23	10	3	4	2	2	1
Henry	231	4	64	151	134	41	17	14	14	5	2	3	1
Howard	242	1	79	173	127	38	25	18	8	6	2	1	1
Huntington	229	2	51	169	150	19	13	13	5	5	1	2	1
Jackson	216	3	48	142	131	41	20	10	9	5	1	1	1
Jasper	91	..	22	66	60	16	8	7	..	2	..	..	..
Jay	200	3	52	133	122	43	16	9	3	6	2	3	1
Jefferson	310	..	4	45	40	10	15	4	..	..	..	1	..
Jennings	171	2	22	68	70	22	14	45	3	2	2	2	2
Johnson	112	..	14	72	73	15	6	5	..	2	3	1	..
Knox	334	..	79	216	170	44	26	8	9	12	1	1	..
Kosciusko	258	5	75	170	139	49	24	16	7	7	5	2	5
Lagrange	134	2	35	105	90	19	4	3	4	2	..	2	..
Lake	156	1	43	107	84	31	23	10	6	6	1	1	..
Laporte	222	..	34	165	141	27	16	12	6	9	3	1	19
Lawrence	212	7	72	156	106	31	24	9	1	6	1	1	1
Madison	358	10	100	239	186	64	35	22	15	17	10	3	11
Marion	1,090	18	185	716	714	244	112	58	44	31	8	12	22
Marshall	237	1	72	170	142	49	19	13	4	4	..	..	..
Marin	150	3	25	103	102	28	16	12	6	3	1	1	..
Miami	222	5	71	153	117	34	25	12	3	4	1	10	3
Monroe	150	3	43	104	87	31	14	6	4	1	..	..	..
Montgomery	230	6	56	155	137	45	28	10	5	9	1	1	..

Morgan	216	65	158	118	29	18	9	6	1	...	1	...	1	...	2	...	3	3
Newton	70	29	55	35	6	3	6	8	9	...	11	5	3	1	...	...	...	...
Noble	197	56	103	103	40	18	8	9	1	...	1	...	...	...	...	...	...	...
Ohio	62	7	16	2	13	2	1	1	4	...	3	1	1	...	...	...	...	...
Orange	149	7	40	80	26	13	9	4	...	...	1	...	...	...	...	...	...	...
Owen	146	28	86	79	35	29	12	6	6	...	6	1	1	...	...	...	...	...
Parke	173	46	101	101	40	19	11	6	1	...	2	1	1	...	...	...	...	...
Perry	171	50	106	95	35	20	10	1	3	...	1	1	1	...	...	...	...	...
Pike	169	62	88	88	23	13	11	1	3	...	2	1	1	...	...	...	...	...
Porter	138	27	80	85	38	18	10	4	...	...	1	...	...	...	...	...	...	...
Posey	249	68	161	144	62	18	15	11	...	...	3	1	1	...	...	...	...	...
Pulaski	78	26	58	45	11	3	3	3	3	...	3	2	1	...	...	...	...	...
Putnam	192	59	130	106	32	12	16	6	6	...	3	2	1	...	...	...	...	...
Randolph	276	88	208	185	35	21	14	6	2	...	1	...	...	...	...	...	...	...
Ripley	150	1	24	66	29	17	11	4	2	...	2	1	...	...	...	...	...	...
Rush	166	5	35	118	24	16	6	2	...	...	2	2	...	...	...	...	...	...
Scott	63	22	47	32	7	3	1	3	...	...	2	1	...	...	...	...	...	...
Shelby	222	9	62	160	33	18	9	6	...	...	2	1	1	...	...	...	...	...
Spencer	230	4	63	128	45	15	11	2	2	...	7	...	1	...	...	...	...	...
Starke	52	1	18	33	10	3	4	...	...	...	2	...	...	...	...	...	...	...
Steuben	116	16	37	37	19	7	1	1	...	...	1	...	...	...	...	...	...	...
St. Joseph	360	94	253	223	72	32	10	7	...	...	2	1	...	...	...	...	...	...
Sullivan	234	62	162	140	40	17	14	6	...	...	3	4	...	...	...	...	...	...
Switzerland	121	45	91	62	14	7	5	7	...	...	2	...	...	...	...	...	...	...
Tippecanoe	326	61	212	218	81	25	13	4	...	...	4	6	...	...	...	...	...	...
Tipton	187	71	128	86	32	12	4	5	...	...	3	5	...	...	...	...	...	...
Union	34	27	25	27	3	1	...	...	...	...	2	...	...	...	...	...	...	...
Vanderburgh	350	54	230	235	75	32	14	4	...	...	7	...	...	...	...	...	...	...
Vermillion	136	49	63	52	26	16	11	3	...	...	8	4	...	...	...	...	...	...
Vigo	640	155	406	389	141	78	55	18	...	...	4	2	...	...	...	...	...	...
Wabash	269	56	193	175	59	26	9	5	...	...	3	2	...	...	...	...	...	...
Warren	90	34	62	47	19	2	5	6	...	...	2	1	...	...	...	...	...	...
Warwick	153	5	33	115	103	22	7	2	...	...	3	...	...	...	...	...	...	...
Washington	187	2	49	122	106	12	10	6	...	...	3	1	...	...	...	...	...	...
Wayne	343	51	230	230	69	41	20	13	...	...	4	5	...	...	...	...	...	...
Wells	195	1	52	138	34	18	10	4	...	...	3	3	...	...	...	...	...	...
White	129	1	28	88	24	6	8	3	...	...	1	1	...	...	...	...	...	...
Whitley	160	2	44	105	28	14	11	1	...	...	2	...	...	...	...	...	...	...
Total	20,048	316	4,660	12,602	11,065	3,566	1,759	1,064	535	520	177	240	66	65	15	10	1	1,665
																		1,780

12—Bp. of H.

BIRTHS.

The number of births reported for the year ending September 30, 1891, was 88,912; 16 less than was reported the previous year. Of this number 17,806 were males, and 16,106 were females; 619 were colored, and 850 still-born. There were 318 twin births, and 3 triplets; 632 children were illegitimate. The smallest number (2,347), was born in November, and the greatest number (3,545), was born in July. The nationality of the parents was as follows: 29,423 fathers and 30,376 mothers were American; 2,883 fathers and 2,084 mothers were foreign born; 1,284 fathers and 1,130 mothers were not reported.

TABLE A.

Births by Months, White, Colored and Nationality of Parents, for Year Ending September 30, 1891.

COUNTIES.	1890.		1891.										Total.		Color.				NATIONALITY.							
	October.	November.	January.	February.	March.	April.	May.	June.	July.	August.	September.	Males.			Females.	White.		Colored.		American.		Foreign.		Reported.		Not Reported.
													Male.	Female.		Male.	Female.	Father.	Mother.	Father.	Mother.	Father.	Mother.	Father.	Mother.	
Adams	15	17	21	28	38	40	25	30	130	287	157	180	130	287	157	180	243	251	251	25	17	17	17	17	17	17
Allen	37	46	53	49	47	31	25	30	170	494	231	274	170	494	231	274	244	288	288	136	81	81	81	81	81	81
Bartholemew	38	42	43	39	56	61	60	60	274	571	280	297	274	571	280	297	523	544	544	131	24	24	24	24	24	24
Benton	13	8	15	16	4	20	20	20	90	187	97	90	90	187	97	90	180	160	160	30	54	54	54	54	54	54
Blackford	16	17	16	13	15	16	15	16	95	192	97	95	95	192	97	95	189	191	191	2	2	2	2	2	2	2
Boone	44	24	31	69	31	69	55	58	329	612	329	283	283	612	329	282	587	591	591	9	5	5	5	5	5	5
Brown	14	15	23	29	15	20	15	20	96	182	96	86	86	182	96	86	178	178	178	76	96	96	96	96	96	96
Carroll	40	17	9	53	23	37	30	37	165	340	165	175	175	340	165	175	233	235	235	21	23	23	23	23	23	23
Cass	25	31	19	21	27	10	29	39	177	337	177	121	121	337	175	160	270	272	272	34	51	51	51	51	51	51
Clark	28	18	16	21	23	26	12	22	139	260	127	106	106	260	127	106	231	249	249	21	21	21	21	21	21	21
Clay	20	25	26	30	29	28	24	24	155	309	155	154	154	309	155	154	299	299	299	10	10	10	10	10	10	10
Clinton	11	15	28	33	27	25	17	28	180	325	140	145	145	325	140	145	311	310	310	11	1	1	1	1	1	1
Crawford	19	20	18	21	32	22	28	36	169	305	169	136	136	305	169	136	281	292	292	11	7	7	7	7	7	7
Davies	48	43	45	53	63	44	33	48	336	634	329	298	298	634	329	294	587	605	605	40	23	23	23	23	23	23
Dearborn	18	23	20	45	16	24	34	24	161	298	161	134	134	298	161	134	243	268	268	42	11	11	11	11	11	11
Decatur	21	18	31	41	20	9	22	20	161	298	158	137	137	298	158	137	271	279	279	16	7	7	7	7	7	7
Dekalb	11	1	1	9	9	6	8	7	32	59	32	27	27	59	32	26	56	55	55	4	4	4	4	4	4	4
Delaware	34	14	24	34	55	37	40	72	291	573	285	282	282	573	285	278	539	549	549	27	19	19	19	19	19	19
Dubuque	34	15	24	20	20	12	20	19	146	289	144	143	143	289	144	143	270	285	285	58	55	55	55	55	55	55
Elkhart	159	78	94	59	61	58	42	54	399	830	399	431	431	830	399	431	648	652	652	58	65	65	65	65	65	65
Fayette	13	11	15	7	8	9	19	13	66	132	66	66	66	132	66	66	129	126	126	3	6	6	6	6	6	6
Floyd	75	48	23	105	13	43	22	22	231	451	223	210	210	451	223	210	385	417	417	45	3	3	3	3	3	3
Franklin	19	8	13	11	13	10	13	11	83	196	83	113	113	196	83	113	171	174	174	8	2	2	2	2	2	2
Franklin	13	13	12	12	11	14	12	13	44	87	44	43	43	87	44	43	75	81	81	6	6	6	6	6	6	6
Fulton	13	2	90	16	11	23	11	13	163	307	163	144	144	307	163	144	295	302	302	8	2	2	2	2	2	2

TAB

Births, Number of Child to Mother, Grouped Ages of Parents, Still,

COUNTIES.	No. of Children.	NUMBER OF CHILDREN BORN TO THIS MOTHER.											
		1st.	2d.	3d.	4th.	5th.	6th.	7th.	8th.	9th.	10th.	11th.	12th and Over.
Adams	287	85	49	52	26	26	12	10	10	3	3	3	4
Allen	404	95	72	44	38	32	16	12	8	3	2	4	5
Bartholomew	571	158	127	86	57	43	37	22	15	10	7	3	3
Benton	187	54	32	31	22	14	9	7	5	2	4	1	1
Blackford	192	49	56	38	17	9	7	5	6	2	1	1	2
Boone	612	167	138	95	55	50	36	29	16	14	5	6	1
Brown	182	39	27	30	28	18	15	6	7	3	3	1	4
Carroll	340	104	66	51	25	27	10	21	14	5	6	2	8
Cass	337	90	65	32	39	26	19	14	11	2	6	1	3
Clark	230	77	43	39	20	23	26	12	5	6	4	2	1
Clay	309	47	54	56	54	46	24	12	11	5	3	1	4
Clinton	325	85	67	46	45	22	19	19	6	5	3	3	1
Crawford	305	93	72	53	31	19	14	7	7	2	1	1	5
Davies	634	151	133	101	65	60	42	21	19	19	12	4	2
Dearborn	298	72	84	39	26	30	20	18	6	1	1	1	1
Decatur	298	86	72	37	30	10	16	19	7	5	6	4	4
DeKalb	59	19	12	6	7	9	3	2	1	1	1	1	1
Delaware	573	144	132	94	61	42	40	20	15	7	7	3	3
Dubois	289	51	62	30	46	24	21	16	16	8	4	5	1
Elkhart	830	250	156	116	93	50	41	29	23	9	9	2	46
Fayette	132	42	27	13	11	16	8	4	2	2	1	1	9
Floyd	451	146	97	66	46	30	20	7	5	6	3	3	2
Fountain	196	64	44	20	18	14	8	6	6	6	3	1	6
Franklin	87	30	10	8	8	12	12	1	3	1	1	1	1
Fulton	307	85	60	52	39	22	28	10	3	3	6	1	1
Gibson	412	119	68	58	51	32	27	19	16	8	7	2	3
Grant	401	120	81	68	37	27	29	11	11	6	2	2	1
Greene	277	70	49	37	36	24	11	18	14	6	1	1	8
Hamilton	616	163	116	103	84	46	42	24	12	6	2	2	17
Hancock	375	80	78	52	44	35	24	15	16	10	5	3	8
Harrison	349	94	56	44	36	28	38	13	10	10	10	2	2
Hendricks	414	105	70	67	64	37	17	18	16	7	3	1	4
Henry	508	134	106	75	66	34	30	20	9	11	4	3	9
Howard	333	93	69	63	32	22	12	11	10	7	3	5	3
Huntington	460	128	94	83	51	39	24	14	11	4	3	3	4
Jackson	506	122	96	82	50	35	37	31	22	12	7	3	5
Jasper	170	54	26	23	17	20	13	5	4	2	3	3	2
Jay	411	117	86	59	47	34	23	17	12	7	2	2	5
Jefferson	224	60	41	29	25	25	15	8	7	4	3	2	4
Jennings	283	95	51	37	29	20	15	12	7	3	5	3	1

LE B.

Plurality, and Illegitimate Births, Year Ending September 30, 1891.

GROUPED AGES OF PARENTS.														STILL BIRTHS.		PLUR-ALITY.		Illegit-imate.	
Under 20.		20 to 30.		30 to 40.		40 to 50.		50 to 60.		60 to 70.	70 to 80.	Not Rep'd.		Male.	Female.	Male.	Female.	Male.	Female.
Father.	Mother.	Father.	Mother.	Father.	Mother.	Father.	Mother.	Father.	Mother.	Father.	Mother.	Father.	Mother.						
2	27	124	162	108	74	31	17	12	..	..	..	8	5	1	1	3	1	2	2
18	123	211	164	109	65	50	19	6	..	..	..	58	44	4	..	3	1	2	2
2	47	220	325	243	170	75	21	12	..	2	..	12	3	10	4	5	1	2	7
11	54	90	82	67	38	13	3	..	..	..	..	9	5	3	..	1	1	1	1
2	49	70	90	83	37	29	15	5	..	2	..	..	..	..	..	1	1	1	1
7	73	261	317	216	171	76	39	29	1	7	7	7	2	5	7	13	6	3	2
26	73	93	65	47	20	9	7	..	4	..	..	5	3	1	1	6	2	2	..
20	61	131	125	112	100	48	40	11	..	..	..	16	12	2	2	2	2	..	..
9	101	96	92	71	34	11	7	1	1	1	..	96	142	5	1	4	10	2	..
2	23	96	129	100	102	45	4	11	..	..	..	5	1	..	..	2	1	1	1
3	57	113	137	128	73	58	42	7	..	..	..	..	..	1	1	6	4	4	1
3	34	127	175	137	92	35	12	5	..	1	..	12	7	6	5	3	4	3	2
27	75	141	190	82	68	34	24	8	1	1	..	3	2	5	6	7	8	6	6
3	48	280	372	251	168	87	31	17	..	..	..	8	7	10	9	8	8	6	2
3	18	102	155	122	96	42	13	8	..	..	..	18	13	4	2	3	3	6	2
1	30	111	155	108	85	61	22	9	..	..	1	10	4	2	3	1	1	1	2
1	4	21	31	24	20	8	1	1	..	..	..	2	3	1	..	..	..	..	..
3	64	253	315	215	152	67	28	12	..	3	..	18	12	6	7	3	1	5	..
1	9	98	141	124	111	58	27	6	..	2	..	..	1	..	..	..	..	..	..
1	69	321	346	231	192	95	42	31	..	..	..	138	168	22	16	14	12	15	10
16	15	37	41	53	38	12	8	..	1	..	..	14	29	..	..	..	..	..	9
2	39	204	259	161	124	58	19	8	..	1	..	17	10	7	6	..	..	7	4
1	27	87	106	67	44	21	7	4	..	1	..	15	12	1	..	..	..	3	..
1	4	26	39	35	35	18	6	1	..	..	..	6	2	..	..	2	..	3	..
1	39	120	163	123	86	47	12	5	..	1	..	9	6	6	5	2	..	3	2
3	38	151	219	151	121	66	22	14	..	4	..	19	8	..	..	3	5	5	6
1	42	164	215	120	100	40	14	10	1	..	..	73	26	5	4	1	5	4	3
3	41	124	137	91	78	31	7	6	..	..	1	13	6	..	1	9	7	10	1
5	54	241	326	254	198	76	16	8	..	3	1	16	10	9	7	13	11	8	3
..	30	166	181	143	101	49	21	9	..	1	..	12	37	3	..	6	4	1	5
4	27	119	166	151	121	50	23	8	..	1	..	12	8	6	1	6	2	3	2
..	28	152	221	161	134	73	19	13	..	1	..	12	10	3	1	3	1	1	3
4	44	199	278	207	140	65	34	14	..	3	..	6	2	6	7	11	9	6	3
42	48	164	165	86	83	27	28	4	1	..	1	9	8	..	..	..	..	..	..
2	35	184	253	185	127	52	18	12	..	..	..	23	25	7	3	1	3	2	2
3	49	184	257	194	158	85	31	15	..	4	..	18	8	11	7	3	3	6	10
6	10	60	84	74	59	31	9	3	..	..	..	2	8	1	1	..	..	..	..
1	33	194	231	148	124	47	19	7	..	1	..	6	2	..	..	2	2	2	2
..	12	65	84	83	66	39	18	5	..	..	..	31	44	1	1	..	..	3	1
..	26	108	148	92	77	38	12	13	..	3	1	24	16	9	8	4	4	6	5

TABLE B—

COUNTIES.	No. of Children.	NUMBER OF CHILDREN BORN TO THIS MOTHER.												Not Reported.
		1st.	2d.	3d.	4th.	5th.	6th.	7th.	8th.	9th.	10th.	11th.	12th and Over.	
Johnson	342	102	73	49	28	22	17	17	14	2	2	6	2	8
Knox	345	85	69	47	38	33	21	15	11	11	5	5	3	2
Kosciusko	291	75	72	56	30	19	14	11	7	2	2	4	2	1
Lagrange	347	97	60	80	35	29	26	11	9	5	5	1	1	2
Lake	272	75	50	51	22	20	20	5	6	9	6	5	5	2
Laporte	689	161	154	101	74	55	35	30	18	17	15	6	4	19
Lawrence	341	94	74	49	30	22	14	18	5	4	2	3	3	18
Madison	690	198	149	103	73	54	37	21	25	13	9	1	4	19
Marion	2,881	859	582	414	293	242	144	106	79	44	28	20	17	23
Marshall	349	110	70	46	42	28	23	8	13	4	2	2	1	1
Martin	179	35	31	29	22	15	7	13	11	6	5	3	2	1
Miami	292	86	55	43	32	12	25	15	9	3	3	3	1	1
Monroe	300	88	59	36	26	26	25	19	9	3	2	2	3	4
Montgomery	461	144	99	64	53	32	20	13	12	7	5	1	1	6
Morgan	310	104	64	35	25	19	22	14	13	6	1	3	1	4
Newton	137	29	25	19	18	9	13	6	13	5	2	1	1	3
Noble	123	39	30	13	12	9	8	3	3	2	1	1	1	1
Ohio	71	14	11	7	12	6	8	3	3	4	2	1	1	2
Orange	197	56	39	35	18	12	11	13	4	5	2	2	1	6
Owen	286	85	51	42	26	32	16	11	8	5	2	2	2	2
Parke	184	38	36	27	19	21	15	8	9	2	4	4	1	4
Perry	247	66	35	29	27	15	22	17	8	5	5	2	1	3
Pike	126	25	24	17	16	13	7	7	6	3	3	1	1	1
Porter	214	48	59	30	26	14	19	4	6	3	1	1	2	12
Posey	514	139	107	58	55	46	25	18	19	13	10	6	6	12
Pulaski	142	31	31	17	10	23	7	8	7	2	2	2	2	2
Putnam	489	129	113	73	59	39	21	13	12	3	3	1	3	7
Randolph	655	178	135	99	74	56	29	29	14	12	11	6	1	3
Ripley	282	70	53	51	32	21	14	13	6	6	4	1	1	10
Rush	279	75	47	53	34	13	15	18	8	6	5	2	2	1
Scott	87	26	20	9	15	4	4	1	1	4	1	1	1	1
Shelby	459	126	84	67	51	37	28	24	17	8	6	2	6	3
Spencer	241	58	46	31	14	29	13	7	11	8	10	4	4	6
Starke	57	15	11	5	11	4	5	1	1	1	1	1	1	2
Steuben	127	32	34	24	14	5	5	2	3	3	1	1	1	4
St. Joseph	660	170	134	94	78	49	36	23	19	12	14	6	10	15
Sullivan	298	63	62	49	41	23	24	8	6	5	9	1	2	5
Switzerland	111	25	23	15	16	13	7	6	2	2	1	1	1	1
Tippecanoe	466	135	95	58	39	44	31	18	9	8	3	3	6	17
Tipton	367	106	68	57	35	28	17	13	9	9	4	4	3	14
Union	60	16	20	9	5	2	1	2	1	3	1	1	1	3
Vanderburgh	1,190	318	214	187	141	97	70	57	44	21	18	8	12	2
Vermillion	167	51	30	22	11	11	15	11	7	3	2	1	1	3
Vigo	778	217	153	100	119	67	35	29	14	19	8	3	1	13
Wabash	403	91	90	67	47	35	17	17	10	7	2	2	5	13
Warren	61	14	19	8	7	8	2	1	1	1	1	1	1	1
Warrick	333	85	47	59	37	27	23	13	14	7	2	7	2	10
Washington	337	100	72	35	36	21	19	20	8	7	1	1	6	11
Wayne	741	216	153	107	90	52	41	26	21	6	8	11	8	2
Wells	212	47	37	35	34	15	11	12	6	4	3	1	1	6
White	253	68	46	27	34	17	23	12	7	4	1	3	2	9
Whitley	265	71	50	39	22	25	13	15	7	2	3	2	2	14
Total	33,912	9,222	6,809	5,020	3,734	2,702	1,983	1,378	995	593	408	223	259	581

Continued.

GROUPED AGES OF PARENTS.														STILL BIRTHS.		PLUR-ALITY.		Illegit-imate.	
Under 20.		20 to 30.		30 to 40.		40 to 50.		50 to 60.		60 to 70.	70 to 80.	Not Rep'd.		Male.	Female.	Male.	Female.	Male.	Female.
Father.	Mother.	Father.	Mother.	Father.	Mother.	Father.	Mother.	Father.	Mother.	Father.	Father.	Father.	Mother.						
4	26	143	199	124	90	41	19	11	5	10	4	2	1	2	1	2	6	6	4
1	21	108	161	125	117	65	17	12	1	27	23	2	2	6	13	7	3	3	3
2	33	134	157	107	80	36	18	6	2	6	2	1	1	4	2	2	3	3	3
2	41	144	191	137	91	44	22	15	2	1	16	1	12	10	2	2	1	1	1
..	17	124	158	106	66	30	17	9	..	..	..	..	..	..	..	..	..	..	..
..	23	255	355	288	227	89	50	22	2	22	21	22	21	15	6	5	17	2	4
5	31	138	175	110	95	43	12	9	6	23	20	23	20	5	6	6	10	6	8
3	83	316	386	250	174	61	25	3	5	81	14	81	14	12	13	3	3	9	8
13	216	1,203	1,653	1,028	809	351	67	53	5	197	117	197	117	55	45	17	21	50	46
..	33	155	191	132	108	47	16	10	2	1	..	1	..	6	4	2	10	3	3
8	19	65	94	72	51	27	13	6	1	1	1	1	1	1	..	..	..	..	..
..	24	111	162	114	86	47	15	6	1	12	4	12	4	5	3	1	1	4	1
5	46	125	159	115	81	44	8	4	..	5	4	5	4	3	1	4	2	2	4
1	43	177	265	192	131	78	16	6	2	1	3	1	3	6	3	5	3	3	3
..	34	118	138	102	94	49	16	8	..	30	25	30	25	7	3	5	1	2	4
..	7	28	59	55	43	17	1	2	..	35	27	35	27	1	..	..	..	..	..
1	10	44	66	48	34	17	9	3	1	7	2	7	2	1	1	1	3	1	..
..	4	17	29	35	34	15	4	3	..	1	..	1	..	1	1	..	..	..	..
..	17	86	107	68	47	24	11	1	..	17	14	17	14	1	1	1	1	1	..
6	24	113	157	104	82	42	15	5	..	14	6	14	6	4	6	2	3	4	..
..	14	77	104	74	55	26	11	5	..	2	..	2	..	..	..	..	..	..	..
3	16	96	77	86	80	26	14	13	1	19	57	19	57	..	..	2	4	..	1
..	12	54	66	50	42	15	2	2	..	3	..	3	..	..	..	..	..	..	..
..	14	74	114	96	74	33	7	6	..	3	3	3	3	1	3	1	1	..	..
1	45	218	279	200	151	67	28	11	1	9	4	9	4	12	6	6	8	1	4
..	11	45	65	48	42	26	11	3	2	18	13	18	13	2	2	..	..	..	..
3	49	165	266	217	144	69	19	12	..	16	6	16	6	11	2	3	7	7	5
5	83	279	341	246	181	83	32	14	3	23	16	23	16	12	8	4	4	4	4
3	23	98	150	110	84	51	22	9	1	6	3	6	3	3	2	4	2	2	3
3	24	119	162	93	80	53	12	9	..	1	..	1	..	1	1	2	..	..	..
2	11	40	53	26	14	8	5	4	1	5	3	5	3	1	..	2	..	..	..
2	44	166	228	160	133	75	27	20	2	30	23	30	23	8	7	4	4	3	..
2	14	58	80	48	35	20	11	7	..	103	100	103	100	7	3	1	1	2	1
..	6	19	36	21	10	12	3	1	..	2	..	2	..	..	3	3	1	1	..
..	11	38	54	35	26	17	6	2	1	34	30	34	30	..	3	..	..	..	2
3	44	237	329	261	222	106	33	14	..	31	24	31	24	4	..	9	7	5	4
1	26	115	153	118	97	43	14	7	2	10	6	10	6	2	5	2	2	2	2
13	26	36	41	39	34	11	4	1	..	8	4	8	4	1	2	2	2	1	1
..	34	154	224	175	144	66	24	17	1	43	30	43	30	9	3	13	7	5	9
6	73	138	173	130	103	34	9	9	..	44	3	44	3	5	2	4	8	3	4
..	3	36	42	21	14	3	1	..	..	..	1	..	..	1	..	..	..	..	..
4	82	412	660	489	349	182	57	38	4	50	31	50	31	25	14	9	12	19	13
11	19	61	76	57	49	32	17	10	3	4	6	4	6	4	2	..	..	2	1
..	137	293	388	318	188	104	16	25	1	10	33	10	33	56	41	13	15	26	19
..	34	139	213	190	136	52	11	13	..	8	8	..	8	..	..	1	1	..	..
..	9	22	35	24	13	5	4	..	..	..	..	..	..	..	..	..	..	..	..
1	18	132	185	124	100	47	19	12	..	12	6	12	6	5	4	7	2	8	2
1	32	138	176	109	81	46	15	10	2	30	82	30	82	6	8	2	..	3	4
4	36	271	393	296	253	129	43	15	2	13	1	13	1	5	4	10	10	11	8
7	28	74	107	80	52	29	8	3	1	16	15	16	15	5	2	2	2	1	1
1	13	61	102	81	68	34	11	9	2	57	54	57	54	5	5	2	8	1	1
3	17	111	135	96	84	34	12	6	..	12	14	12	14	..	1	3	3	1	..
309	3,153	13,112	17,542	12,703	9,697	4,650	1,652	867	17	111	13	1,825	1,529	498	352	330	345	345	287

DEATHS.

The total number of deaths reported from all causes for the statistical year closing September 30, 1891, is 15,779, to which if the still-births be added, makes a grand total of 16,629.

TABLE A.

Deaths by Counties for the Year Ending September 30, 1891.

COUNTIES.	1890.						1891.												Males.	Females.	Total.							
	Oct.		Nov.		Dec.		Jan.		Feb.		March.		April.		May.		June.					July.		Aug.		Sept.		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.				M.	F.	M.	F.	M.	F.	
Adams	2	23	3	26	4	30	32	23	4	2	1	4	3	12	15	11	10	2	3	4	7	7	3	5	33	31	64	
Allen	96	18	28	16	14	16	35	15	1	1	4	87	29	12	11	25	16	23	27	19	29	29	24	17	355	297	652	
Bartholomew	16	13	1	1	1	1	7	11	3	1	1	10	6	6	9	8	5	9	15	12	12	14	14	13	194	137	331	
Benton	1	4	2	2	2	2	1	1	1	1	1	3	2	2	1	1	1	1	1	3	3	4	4	1	15	23	38	
Blackford	2	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	38	16	54	
Boone	3	6	5	1	1	5	11	6	8	4	7	11	3	12	15	10	12	12	8	12	13	7	12	6	98	89	187	
Brown	1	1	1	1	2	2	2	2	2	4	1	3	3	2	4	3	3	4	5	4	4	6	3	3	23	22	45	
Cass	3	4	3	4	6	11	10	13	5	13	2	14	16	22	17	10	12	4	4	1	1	1	6	9	73	41	114	
Clark	17	8	9	6	8	13	8	8	8	13	6	4	11	5	5	2	6	2	7	10	6	5	7	3	103	107	210	
Clay	3	2	4	1	5	2	2	4	2	4	2	3	3	8	7	2	2	4	2	4	2	1	3	1	21	25	46	
Clinton	37	4	2	1	2	1	3	6	2	4	2	2	7	1	3	8	4	6	3	2	4	2	4	3	60	69	119	
Crawford	2	1	2	1	1	2	3	3	3	3	2	3	3	7	7	4	2	2	3	4	4	4	3	3	35	31	66	
Davies	6	8	8	5	5	3	11	9	6	5	11	10	6	6	5	5	2	2	6	11	13	8	9	10	81	89	170	
Dearborn	3	8	3	3	5	3	9	6	6	5	5	5	7	6	5	2	2	6	3	5	3	7	4	3	73	60	133	
Decatur	4	2	7	14	7	14	8	2	2	2	2	3	11	9	3	4	6	4	17	17	6	6	9	3	86	57	143	
Dekalb	17	16	10	8	5	13	12	4	16	13	2	6	2	6	6	5	1	7	11	15	13	13	9	15	9	110	112	222
Delaware	8	12	1	4	3	1	9	4	2	4	5	6	3	8	7	4	3	3	12	4	3	3	7	7	36	36	72	
Dubois	28	18	24	16	23	25	19	15	20	19	9	14	17	17	11	12	7	6	16	15	15	14	16	19	210	190	400	
Elkhart	4	11	11	7	4	17	6	8	8	8	4	2	4	3	3	1	4	10	1	2	2	2	2	2	34	18	52	
Fayette	9	7	5	5	2	2	2	3	4	4	4	3	3	3	1	1	12	1	1	1	2	1	2	2	70	73	143	
Floyd	9	7	2	2	2	2	3	3	4	4	2	3	3	3	1	1	1	1	1	1	1	1	1	1	48	43	91	
Fountain	3	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	18	28	46	
Franklin	3	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	58	57	115	
Fulton	3	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	58	57	115	

TABLE A—Continued.

COUNTIES.	1890.						1891.						Males.	Females.	Total.												
	Oct.		Nov.		Dec.		Jan.		Feb.		March.					April.		May.		June.		July.		Aug.		Sept.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.				M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Gibson	8	10	1	6	4	3	12	5	1	5	1	4	10	9	5	1	2	3	4	6	8	20	2	2	5	64	136
Grant	10	6	8	5	10	4	3	9	3	3	3	5	10	10	2	1	3	3	16	11	8	5	1	77	141		
Greene	2	2	4	4	4	4	4	4	4	4	4	4	5	5	5	5	5	5	5	5	4	5	4	7	33	64	
Hamilton	10	9	2	2	8	6	24	15	2	2	4	8	7	7	5	6	1	7	13	11	4	9	7	12	107	211	
Hancock	10	5	7	2	6	5	8	8	2	2	4	8	3	5	3	6	1	5	5	5	8	9	7	6	70	134	
Harrison	4	4	3	3	4	6	4	6	7	3	6	7	2	2	2	2	1	2	4	5	8	2	5	4	43	90	
Hendricks	7	4	3	3	4	6	9	5	8	8	8	11	11	11	10	8	4	4	8	6	11	5	10	47	172		
Henry	13	5	9	13	11	10	8	20	9	13	11	12	19	10	10	6	1	6	12	7	6	13	9	9	123	233	
Howard	2	3	6	6	7	5	8	8	2	2	8	8	6	3	6	1	11	7	13	14	6	6	6	6	76	147	
Huntington	8	5	14	10	10	7	12	8	7	9	9	9	6	8	9	11	14	14	15	15	19	15	12	12	134	274	
Jackson	10	13	4	2	6	6	12	10	5	3	5	5	10	7	4	1	2	8	20	14	8	7	5	3	94	173	
Jasper	9	5	8	5	5	1	2	6	2	1	1	3	3	3	13	5	3	3	4	5	3	3	2	6	20	145	
Jay	10	5	5	3	5	12	14	2	4	4	7	3	7	10	7	5	6	6	3	4	3	7	5	6	23	135	
Jefferson	4	3	3	2	3	3	3	5	6	3	2	7	4	7	5	2	7	5	3	3	4	7	5	6	67	137	
Jennings	9	9	2	1	3	2	3	5	6	3	2	11	8	8	8	7	4	8	20	14	8	7	5	3	51	111	
Johnson	8	6	2	5	4	7	8	2	3	3	2	11	8	8	8	7	4	8	20	14	8	7	5	3	75	154	
Knox	5	2	1	5	0	5	1	4	2	4	2	3	4	4	1	1	4	4	4	5	12	9	11	6	43	90	
Kosciusko	5	2	1	5	0	5	1	4	2	4	2	3	4	4	1	1	4	4	5	5	12	9	11	6	47	100	
Lafayette	10	4	1	3	4	4	11	13	10	7	10	16	13	13	11	9	11	11	16	9	10	6	16	12	62	200	
Lake	2	4	3	3	3	3	5	4	7	5	5	8	12	8	11	1	2	1	11	16	9	10	6	12	62	132	
Laporte	22	21	17	25	14	16	31	12	33	22	35	44	28	22	17	14	9	10	28	24	36	30	23	13	263	552	
Lawrence	13	6	4	6	3	6	10	3	4	13	13	13	9	7	3	9	6	6	19	13	7	8	6	4	47	113	
Madison	16	4	4	4	8	13	10	11	13	10	14	13	9	11	9	8	8	11	10	10	7	8	6	4	56	146	
Marion	46	60	6	63	82	87	90	103	75	104	94	96	96	104	93	85	85	85	115	96	82	78	73	97	95	196	
Marshall	3	5	5	5	7	3	9	3	5	11	6	6	7	6	5	2	10	6	11	9	3	3	8	4	931	1,997	
Martin	8	2	1	7	1	3	4	5	4	4	4	4	5	1	4	4	1	1	2	4	2	4	1	1	21	41	
Miami	9	10	4	5	3	6	6	4	4	4	4	4	5	4	4	4	4	4	4	4	4	4	4	3	57	103	
Monroe	5	5	4	5	5	6	4	2	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	12	94	213	
Montgomery	5	5	4	5	5	6	4	2	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	11	99	219	
Morgan	5	5	4	5	5	6	4	2	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	12	96	213	
Morgan	5	5	4	5	5	6	4	2	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	11	99	219	

TABLE B.

Showing Deaths by Months, Sex and Color, for Year Ending September 30, 1891.

CLASS ONE—ZYMOTIC DISEASES.	1890.			1891.									WHITE.		COLORED.		Total.
	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Male.	Fem.			
ORDER ONE—MIASMATIC.																	
Cholera infantum	47	7	7	2	2	2	2	4	15	75	203	210	105	354	311	665	
Cholera morbus	23	2	2	26	11	20	14	14	12	5	10	14	2	16	15	32	
Croup	3	5	5	4	4	2	1	1	1	3	15	9	11	91	101	199	
Diarrhea.	1	1	1	1	4	1	1	1	3	26	40	15	82	24	24	67	
Diphtheria.	64	76	84	76	46	41	43	33	4	8	68	51	38	315	24	662	
Dysentery	27	7	10	1	1	2	3	4	2	3	28	28	19	48	99	246	
Enterocolitis	3	2	2	2	2	2	1	2	2	2	6	4	1	35	17	88	
Erysipelas	5	3	3	4	1	2	3	2	3	6	13	10	8	40	40	52	
Fever, cerebro-spinal	2	7	6	5	9	14	19	10	8	9	1	1	1	56	51	110	
Fever, continued	17	1	9	10	6	4	3	6	9	18	18	18	28	83	2	145	
Fever, malarial	6	2	2	4	7	12	6	11	6	8	8	9	5	7	81	9	
Fever, pernicious	6	1	2	4	7	12	6	11	6	8	8	9	5	7	81	2	
Fever, puerperal	22	6	13	27	36	27	27	14	10	14	11	11	13	119	95	220	
Fever, rheumatic	136	86	49	25	25	47	34	24	37	38	72	117	380	281	19	717	
Fever, scarlet	7	3	3	1	1	1	1	2	2	1	3	4	4	11	22	36	
Fever, typhoid	2	2	1	1	1	3	132	52	2	3	4	4	4	21	17	38	
Fever, typho-malarial	4	2	2	30	25	76	17	26	47	11	1	1	1	69	210	409	
Gangrene	2	2	2	5	22	21	17	2	7	23	23	6	6	44	44	117	
LaGrippe	4	4	2	2	3	7	10	4	5	9	2	3	3	54	38	112	
Measles	5	1	3	2	3	7	10	11	6	5	23	10	10	56	49	112	
Pertontitis, puerperal	12	4	6	19	6	8	7	7	4	3	9	8	9	5	5	97	
Pneumia	5	4	2	2	2	3	4	4	3	2	2	2	2	5	5	85	
Septicæmia, puerperal	5	4	2	2	1	3	4	4	3	2	2	2	2	5	5	85	
Total	399	272	264	280	210	303	343	240	262	543	568	485	2,088	1,972	75	54	4,169

ORDER TWO—ENTHETIC.

Syphilis	1	2	1	...	3	3	3	3	1	1	...	1	13	6	...	...	19
Total	1	2	1	...	3	3	3	3	1	1	...	1	13	6	...	...	19

Delirium tremens	29	16	21	2	1	1	2	2	25	55	57	37	6	153	...	...	6
Inanition .....	...	...	3	26	23	23	35	24	25	2	...	...	196	...	9	13	371
Intemperance .....	...	...	...	1	2	...	4	2	3	2	2	1	18	1	1	...	20
Total	29	16	24	29	26	24	41	26	28	57	59	38	220	154	10	13	397

ORDER THREE—DIETIC.

Delirium tremens	29	16	21	2	1	1	2	2	25	55	57	37	6	153	...	...	6
Inanition .....	...	...	3	26	23	23	35	24	25	2	...	...	196	...	9	13	371
Intemperance .....	...	...	...	1	2	...	4	2	3	2	2	1	18	1	1	...	20
Total	29	16	24	29	26	24	41	26	28	57	59	38	220	154	10	13	397

TABLE B—Continued.

CLASS TWO—CONSTITUTIONAL DISEASES.	1890.			1891.									WHITE.		COLORED.		Total.
	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Male.	Fem.	Male.	Fem.	
ORDER ONE—DIATHETIC.																	
Anemia	2	4	1	1	22	26	2	3	2	1	3	1	12	11	23	3	7
Cancer	37	17	30	33	9	10	48	29	29	47	33	37	119	259	398	1	7
Dropsy	13	13	18	18	9	10	9	11	8	22	8	7	62	78	146	1	5
Rheumatism	12	4	9	6	10	4	7	7	2	8	7	9	49	31	85	3	2
Total	64	38	58	58	41	42	67	50	41	78	51	54	242	379	642	7	14
ORDER TWO—TUBERCULAR.																	
Hydrocephalus	4	4	1	2	8	1	3	2	3	3	4	1	10	11	22	1	...
Menigitis, tubercular	5	6	1	2	3	1	1	4	2	5	4	2	25	13	38	...	...
Phthisis	136	116	132	177	167	189	230	165	143	208	163	149	334	993	1,975	79	67
Serofula	2	5	1	4	2	2	6	2	2	8	8	7	17	17	41	5	2
Tuberc mesenterica	2	1	5	2	2	2	2	4	2	2	3	5	11	11	24	1	1
Total	147	132	139	183	174	193	240	177	150	224	177	164	897	1,047	2,100	86	70

TABLE B—Continued.

CLASS THREE—LOCAL DISEASES.	1890.			1891.									WHITE.		COLORED.		Total.
	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Male.	Fem.	Male.	Fem.	
ORDER ONE—NERVOUS.																	
Apoplexy.	18	15	23	31	35	30	28	22	20	26	17	27	163	115	11	3	292
Brain abscess	1	1	1	1	1	1	1	1	1	1	1	1	5	2	1	3	7
Brain congestion.	10	12	15	9	6	17	19	8	11	17	18	11	67	74	6	6	153
Brain disease	9	2	3	1	1	3	3	2	2	3	2	3	24	30	2	2	54
Brain fever.	10	8	7	12	1	5	7	6	4	8	4	3	42	26	2	2	72
Brain softening	5	2	3	1	1	5	1	7	2	7	13	5	34	14	5	5	48
Cerebritis.	16	8	29	13	28	2	18	11	13	29	7	7	73	46	6	6	129
Convulsions	15	13	12	17	23	23	6	19	31	29	29	23	185	171	8	3	273
Epilepsy	3	2	3	5	1	3	1	3	5	3	3	1	22	15	2	2	57
Insanity	1	4	1	1	1	1	1	2	1	1	1	1	1	2	1	1	13
Locomotor ataxia	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	9
Meningitis	25	18	23	24	27	20	28	23	19	44	32	25	142	145	9	3	290
Meningitis cerebral	3	1	5	3	6	8	6	3	4	8	3	4	24	24	1	1	49
Meningitis spinal	2	1	1	2	2	2	12	3	3	3	1	4	14	14	1	1	39
Paralysis	32	25	28	26	26	38	41	30	20	30	25	31	186	151	7	8	352
Spina bifida	3	2	1	2	2	1	8	7	7	6	6	1	27	17	2	2	48
Spine disease	5	1	1	1	1	1	1	1	3	4	2	2	13	6	1	1	20
Tetanus	1	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	9
Total	159	105	155	141	149	165	209	143	145	191	169	153	1,003	797	52	32	1,884
ORDER TWO—CIRCULATORY.																	
Congestion	2	1	85	3	1	4	1	78	1	2	2	3	11	9	17	17	20
Heart disease.	94	63	4	86	86	92	97	1	68	90	72	79	512	444	1	1	990
Hemorrhage	6	2	4	3	3	5	1	2	1	1	1	1	10	18	1	1	29
Total	102	66	89	93	90	101	99	80	69	93	75	82	533	471	18	17	1,039

TABLE B—Continued.

CLASS THREE—LOCAL DISEASES.	1890.				1891.								WHITE.		COLORED.		Total.		
	Oct.	Nov.	Dec.	Jan.	Feb.	Mch.	Apr.	May.	June.	July.	Aug.	Sept.	Male.	Fem.	Male.	Fem.			
ORDER THREE—RESPIRATORY.																			
Asthma	2	4	8	2	3	2	6	4	1	3	1	1	13	22	1	7	1	13	96
Bronchitis	20	25	41	47	48	27	33	23	9	14	11	3	150	17	1	7	1	13	349
Emphysema	1	1	1	2	2	2	2	1	2	1	3	3	10	12	1	1	1	1	11
Haemoptysis	4	3	1	3	1	1	3	4	2	1	1	1	11	13	1	1	1	1	20
Laryngitis	3	2	1	1	1	2	3	4	2	1	1	1	4	10	2	2	2	2	11
Lungs, abscess	3	1	1	1	1	1	1	3	3	1	6	4	4	10	1	1	1	1	14
Lungs, congestion	6	6	16	15	12	11	6	4	2	1	6	5	49	38	2	1	1	1	89
Lungs, disease	8	7	2	2	4	4	3	4	2	1	4	4	14	16	1	1	1	1	33
Pleuritis	2	1	1	2	1	1	3	1	2	1	1	1	9	14	1	1	1	1	14
Pneumonitis	37	71	111	167	130	162	176	82	34	17	19	34	521	463	28	23	23	23	1,010
Pneumonitis, broncho	1	1	1	3	3	3	4	4	1	1	1	1	8	9	1	1	1	1	9
Pneumonitis, catarrhal	1	1	1	1	1	1	1	1	1	1	1	1	4	5	1	1	1	1	18
Pneumonitis, pleuro	1	1	1	1	1	1	1	1	1	1	1	1	4	5	1	1	1	1	18
Pneumonitis, typho	1	5	5	3	3	2	5	1	1	1	1	1	11	12	1	1	1	1	27
Total	87	128	188	247	208	222	245	129	56	39	47	56	823	739	42	43	42	43	1,652
ORDER FOUR—DIGESTIVE.																			
Bowels, catarrh	1	1	1	1	3	1	1	1	1	1	1	1	5	5	3	3	3	3	10
Bowels, congestion	13	10	13	6	3	1	2	2	1	11	2	2	27	21	1	1	1	1	54
Bowels, disease	2	2	3	2	2	2	3	3	2	3	2	2	16	12	1	1	1	1	23
Bowels, hemorrhage	2	7	1	3	2	2	3	1	2	1	1	1	10	14	1	1	1	1	15
Bowels, obstruction	2	9	6	6	2	4	5	3	3	4	3	4	30	25	1	1	1	1	56
Colic	1	1	1	1	1	1	2	1	1	1	1	1	5	8	1	1	1	1	6
Colitis	1	1	1	1	1	1	1	1	1	1	1	1	5	8	1	1	1	1	13
Dyspepsia	5	3	1	4	3	2	1	8	18	1	26	24	90	79	5	5	5	5	15
Eriertitis	11	16	8	1	7	1	17	9	6	12	10	15	54	53	1	1	1	1	176
Gall stones	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	8
Gastritis	13	10	12	8	2	3	8	9	6	12	10	2	29	14	1	1	1	1	145
Gastro-enteritis	2	2	2	2	2	2	6	1	2	5	5	3	18	15	1	1	1	1	34
Hepatitis	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	17
Hernia	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	15
Intussusception	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	15
Jaundice	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	15
Liver, abscess	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	15
Liver, cirrhosis	4	5	2	3	2	2	6	3	3	4	5	3	26	15	4	4	4	4	45

TABLE B—Continued.

CLASS FOUR—DEVELOPMENTAL DISEASES.	1890.				1891.									WHITE.		COLORED.		Total.
	Oct.	Nov.	Dec.		Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Male.	Fem.	Male.	Fem.	
ORDER ONE—CHILDREN.																		
Birth injuries	12	8	6		14	12	13	2	8	1	11	3	5	4	2	6	2	
Birth, premature	..	..	5		1	4	3	14	7	14	16	20	19	68	53	124	124
Cyanosis	..	..	1		1	1	..	22	2	..	..	..	1	2	1	103	103
Malformation	4	..	1		1	1	..	3	..	..	..	..	..	..	..	13	13
Total	16	8	12		16	17	16	41	17	21	27	30	25	143	97	246	246	
ORDER TWO—WOMEN.																		
Parturition	..	1	1		2	..	1	6	3	3	6	5	5	..	31	2	33	
Post Part. Hem.	2	1	..		1	3	..	1	2	..	2	1	1	..	10	..	20	
Puerperal eclampsia	3	2	1		..	..	4	4	..	..	2	1	..	..	21	1	24
Total	5	4	2		4	3	5	11	7	3	9	7	7	..	64	3	67	
ORDER THREE—OLD AGE.																		
Old age	27	20	36		29	34	51	48	47	31	33	26	39	203	204	9	5	
Total	27	20	36		29	34	51	48	47	31	33	26	39	203	204	9	5	
ORDER FOUR—NUTRITION.																		
Debility	9	5	7		13	5	9	9	5	10	28	11	13	65	53	3	3	
Exhaustion	14	12	16		14	12	10	2	8	7	4	4	8	48	52	1	4	
Marasmus	9	12	5		7	..	2	4	2	..	9	15	8	45	31	..	4	
Total	32	29	28		34	17	21	15	15	18	41	34	25	158	136	4	11	

TABLE B—Continued.

CLASS FIVE—VIOLENCE.	1890.			1891.									WHITE.		COLORED.		Total.
	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Male.	Fem.			
ORDER ONE—ACCIDENT.																	
Accident	28	22	32	30	13	12	37	27	26	34	34	27	241	64	322		
Accident, railroad	11	9	8	9	6	4	11	10	3	15	5	9	92	7	100	4	
Poison	1	4	3	5	1	4	5	3	3	2	2	2	21	14	37	1	
Burn	2	4	6	10	1	2	3	2	10	2	3	4	18	20	39	1	
Drowning	6	1	2	8	2	2	2	6	6	6	3	4	28	7	41	1	
Shooting	3	4	2	8	2	9	3	2	1	3	2	1	34	2	40	3	
Total	51	44	51	62	25	32	61	50	43	64	49	47	434	114	579	6	
ORDER THREE—HOMICIDE.																	
Homicide	1	1	1	1	2	1	1	1	1	2	1	3	9	4	13	1	
Total	1	1	1	1	2	1	1	1	1	2	1	3	9	4	13	1	
ORDER FOUR—SUICIDE.																	
Hanging	1	1	1	1	1	1	1	2	2	2	1	2	8	5	8	1	
Poison	1	1	1	2	1	2	1	1	2	2	3	2	7	1	12	1	
Shooting	1	1	1	1	3	2	1	1	2	2	1	3	9	1	10	1	
Suicide	14	10	12	13	3	1	5	7	6	18	5	3	72	22	97	1	
Total	15	10	12	13	3	3	6	11	12	20	10	9	96	28	127	2	
Unclassified	23	9	15	12	10	12	14	9	13	21	18	14	71	94	170	3	
Unknown	25	32	33	19	22	17	39	33	27	63	39	31	183	177	380	8	
Total	48	41	48	31	32	29	53	42	40	81	57	45	254	271	550	10	
RECAPITULATION.																	
Zymotic diseases	429	290	299	309	239	330	387	269	291	601	627	524	2,301	2,132	4,535	67	
Constitutional diseases	211	170	197	241	215	235	307	227	191	302	228	218	1,139	93	2,742	84	
Local diseases	520	431	573	585	543	588	682	446	388	507	429	438	3,221	2,671	6,140	110	
Developmental diseases	80	61	78	83	71	93	115	86	73	110	97	96	504	501	1,013	22	
Accidents and violence	67	55	64	79	30	35	67	61	56	86	60	59	539	146	719	7	
Unclassified and unknown	48	41	48	31	32	29	53	42	40	84	57	45	254	271	550	10	
Grand total	1,355	1,048	1,249	1,328	1,130	1,320	1,611	1,131	1,039	1,690	1,498	1,390	7,958	7,147	15,779	300	

TABLE C.

Causes of Death, Nationality, and Social Relations, Year Ending September 30, 1891.

CLASS ONE—ZYMOTIC.	NATIONALITY.						SOCIAL RELATIONS.						Total.	
	AMERICAN.		FOREIGN.		NOT REP'D.		SINGLE.		MARRIED.		Widow.	NOT REP'D.		
	Male.	Fem.	Male.	Fem.	Male.	Fem.	Male.	Fem.	Male.	Fem.				
ORDER ONE — MIASMATIC.														
Cholera infantum	352	312	7	2	2	2	361	314	7	3	2	1	1	675
Cholera morbus	15	10	2	1	5	2	94	103	6	1	6	1	1	32
Croup	93	100	1	1	3	1	11	13	29	2	7	1	1	199
Diphtheria	35	24	6	2	1	1	315	337	2	4	7	2	1	67
Dysentery	310	382	2	2	7	9	27	63	45	14	16	4	3	662
Erysipelas	124	90	15	13	3	1	46	37	2	2	5	1	1	246
Enterocolitis	48	39	8	1	1	1	15	14	4	5	4	1	1	88
Erysipelas	31	16	1	1	1	1	52	45	5	1	1	1	1	52
Fever, cerebro-spinal	57	51	1	1	1	1	31	42	2	1	5	1	2	110
Fever, continued	1	3	4	7	1	1	3	4	21	27	5	1	2	145
Fever, malarial	54	79	2	2	1	1	1	1	4	81	1	1	1	9
Fever, malarial	2	2	2	6	1	1	1	1	1	1	1	1	1	83
Fever, pernicious	76	76	2	2	1	1	1	1	1	1	1	1	1	9
Fever, puerperal	2	2	2	2	1	1	121	99	154	15	23	14	11	220
Fever, rheumatic	2	2	2	2	1	1	284	149	5	6	8	3	8	717
Fever, scarlet	119	96	40	20	13	5	8	13	5	5	1	1	1	36
Fever, typhoid	364	275	4	4	1	1	5	2	8	8	10	7	9	499
Fever, typho-malarial	14	22	4	2	1	1	5	2	8	8	10	7	9	38
Gangrene	17	17	13	22	17	16	74	73	90	26	54	7	9	499
LaGrippe	167	174	13	22	17	16	74	73	90	26	54	7	9	499

Measles	68	43	1	3	2	...	63	38	4	3	...	4	4	1	117
Peritonitis puerpera	60	13	...	1	...	...	60	4	...	10	...	...	...	...	14
Pertussis	46	62	11	...	...	...	22	51	27	20	7	1	3	2	112
Pyemia . . . . .	...	35	...	3	2	1	...	16	...	28	...	2	...	2	97
Septicemia puer . . . . .	...	33	...	1	...	...	...	3	...	...	...	...	...	...	35
Total	1,982	1,966	112	94	49	36	1,600	1,423	417	409	88	157	38	34	4,169
ORDER TWO—ENTHETIC.															
Syphilis	12	6	1	...	...	...	9	5	4	...	...	1	...	...	19
Total	12	6	1	...	...	...	9	5	4	...	...	1	...	...	19
ORDER THREE—DIETIC.															
Delirium tremens	4	...	2	...	3	2	2	...	4	...	...	...	3	...	6
Inanition	197	158	5	6	...	...	183	147	13	5	4	12	3	2	371
Intemperance	16	1	3	...	...	...	10	...	8	...	1	...	...	1	20
Total	217	159	10	6	3	2	196	147	27	5	5	12	3	3	397

TABLE C—Continued.

CLASS TWO—CONSTITUTIONAL.	NATIONALITY.						SOCIAL RELATIONS.								Total.
	AMERICAN.		FOREIGN.		NOT REP'D.		SINGLE.		MARRIED.		Widower.	Widow.	NOT REP'D.		
	Male.	Fem.	Male.	Fem.	Male.	Fem.	Male.	Fem.	Male.	Fem.					
ORDER ONE—DIATHETIC.															
Anæmia	12	9		2		15	7	3	4	7	1	1		3	8
Cancer	102	212	20	39		15	14	23	85	140	20	95	30	6	9
Dropsy	51	60	10	14		9	11	10	32	39	16	30	5	4	
Rheumatism	47	27	3	5		1	22	5	22	15	9	12	3	1	
Total	212	308	33	60	4	25	54	41	143	201	41	138	11	13	642
ORDER TWO—TUBERCULAR.															
Hydrocephalus	11	11					10	10	1					1	22
Meningitis tub.	25	13					22	13	3						38
Phthisis	763	946	97	59	53	37	406	399	408	511	75	111	24	41	1,975
Scrofula	21	37		1	1	1	22	13	5	5	2	2			41
Tuberc. mesenterica	11	12	1				5	5	5	5	2	2			24
Total	831	1,019	98	60	54	38	465	440	417	520	77	115	24	42	2,100

TABLE C—Continued.

	NATIONALITY.						SOCIAL RELATIONS.						Total.		
	AMERICAN.			FOREIGN.			SINGLE.	MARRIED.		Widower.	Widow.	NOT REP'D.			
	Male.	Fem.		Male.	Fem.	Male.		Fem.	Male.			Fem.			
CLASS THREE—LOCAL DISEASES.															
ORDER ONE—NERVOUS.															
Apoplexy	129	94	2	41	18	4	6	21	9	104	48	54	3	7	292
Brain, abscess	5	2		5	3		2	3	2	2					7
Brain, congestion	67	75	8	1	1	1	1	61	62	11	13	4		1	153
Brain, disease	23	8					1	15	5	7	3	1	2	1	34
Brain, fever	43	27	1	1	1	1	1	35	23	7	4	1			72
Brain, softening	25	13		8	6	9	4	5	27	22	14	3		1	48
Cerebritis	166	121	3	5	9	2	3	51	5	24	9	6		4	129
Convulsions	186	121	5	5	6	2	1	136	116	5	4	1	1	5	273
Epilepsy	21	13	1	1	1	1	1	17	9	4	4	2	1	6	37
Insanity	9	2		1	1	1	1	1	1	6			1	1	13
Locomotor ataxia	7	3		5	2	3	10	1	6	6		2	1	1	10
Meningitis	143	136	5	5	2	3	10	138	129	9	13	3	1	4	299
Meningitis, cerebral	24	25						19	22	4	1	1		1	49
Meningitis, spinal	25	14						22	14	2					39
Paralysis	147	143		38	12	8	4	31	21	111	61	46	5	6	352
Spina bifida	4	5		5	1	3	1	4	6	6	3	1			9
Spine disease	21	17	6	5	1	3	1	22	13	6	3	1	3		48
Tetanus	14	6						10	6	4			1		20
Total	909	745		113	52	33	32	595	461	333	183	113	154	31	1,894
ORDER TWO—CIRCULATORY.															
Congestion	11	8					1	9	4	2	5				20
Heart disease	414	289		91	74	24	18	106	101	331	190	73	149	21	990
Hemorrhage	10	17				1	1	6	7	4	6		5		29
Total	435	394		91	74	25	20	121	112	337	201	73	154	21	1,039

TABLE C—Continued.

CLASS THREE—LOCAL DISEASES.	NATIONALITY.						SOCIAL RELATIONS.						Total.			
	AMERICAN.			FOREIGN.			SINGLE.			MARRIED.				Widow.	NOT REP'D.	
	Male.	Rem.	Total.	Male.	Rem.	Total.	Male.	Rem.	Total.	Male.	Rem.	Total.				
ORDER THREE—RESPIRATORY.																
Asthma	8	13	21	6	8	14	1	1	2	8	12	20	9	6	15	
Bronchitis	139	137	276	12	12	24	91	91	182	43	23	66	31	7	38	
Emphysema	2	1	3	2	1	3	3	3	6	5	3	8	2	1	3	
Hæmoptysis	10	7	17	3	1	4	5	5	10	6	3	9	1	1	2	
Laryngitis	11	13	24	1	1	2	9	9	18	12	5	17	4	1	5	
Lungs, abscess	3	8	11	1	1	2	1	1	2	2	7	9	5	1	6	
Lungs, congestion	40	35	75	9	2	11	23	25	48	13	7	20	4	2	6	
Lungs, disease	13	12	25	1	5	6	7	7	14	6	6	12	5	1	6	
Pleuritis	10	3	13	1	1	2	4	4	8	4	4	8	1	1	2	
Pneumonitis	464	440	904	72	42	114	269	225	494	211	159	370	91	16	107	
Pneumonitis, broncho	4	5	9	1	1	2	4	4	8	2	2	4	1	1	2	
Pneumonitis, cat rhal	7	3	10	1	1	2	4	4	8	2	2	4	1	1	2	
Pneumonitis, pleuro	5	3	8	1	1	2	3	3	6	2	2	4	1	1	2	
Pneumonitis, typho	13	13	26	1	1	2	8	10	18	6	2	8	1	1	2	
Total	735	699	1,434	108	72	180	442	384	826	313	222	535	181	25	156	
ORDER FOUR—DIGESTIVE.																
Bowels, catarrh	5	5	10	2	2	4	3	5	8	2	4	6	2	1	3	
Bowels, congestion	23	21	44	2	2	4	23	14	37	4	4	8	2	1	3	
Bowels, disease	15	7	22	2	1	3	5	5	10	3	2	5	2	1	3	
Bowels, hemorrhage	8	4	12	2	1	3	2	2	4	6	3	9	4	1	5	
Bowels, obstruction	27	23	50	4	2	6	13	14	27	13	8	21	3	1	4	
Colic	1	1	2	1	1	2	1	1	2	1	1	2	1	1	2	
Colitis	5	7	12	1	1	2	5	5	10	2	4	6	1	1	2	
Dyspepsia	7	7	14	1	6	7	5	5	10	2	4	6	1	1	2	
Enteritis	83	71	154	9	6	15	63	45	108	26	22	48	6	4	10	
Gall stones	3	3	6	1	2	3	4	3	7	4	4	8	2	1	3	
Gastritis	41	51	92	10	2	12	17	23	40	21	19	40	9	4	13	
Gastro-enteritis	28	16	44	1	1	2	14	14	28	6	6	12	2	1	3	
Hepatitis	16	14	30	2	1	3	6	4	10	2	2	4	1	1	2	
Hernia	12	9	21	1	3	4	6	2	8	1	4	5	1	1	2	

TABLE C—Continued.

CLASS FOUR—DEVELOPMENTAL.	NATIONALITY.						SOCIAL RELATIONS.								Total.	
	AMERICAN.		FOREIGN.		NOT REP'D.		SINGLE.		MARRIED.		Widower.	Widow.		NOT REP'D.		
	Male.	Fem.	Male.	Fem.	Male.	Fem.	Male.	Fem.	Male.	Fem.		Male.	Fem.			
ORDER ONE—CHILDREN.																
Birth injuries	4	2					4	2							6	
Birth, premature	69	55					69	55							124	
Cyanosis	64	39					64	39							103	
Malformation	9	4					9	4							13	
Total	146	100					146	100							246	
ORDER TWO—WOMEN.																
Parturition		27		4		2		1		29				3	33	
Post Part. Hem.		6		3		1				9	1				10	
Puerperal eclampsia		22		2				2		22					24	
Total		55		9		3		3		60	1			3	67	
ORDER THREE—OLD AGE.																
Old Age	141	141	60	56	11	12	16	13	91	41	96	147	9	8	421	
Total	141	141	60	56	11	12	16	13	91	41	96	147	9	8	421	
ORDER FOUR—NUTRITION.																
Debility	55	44	12	8	1	4	16	7	23	15	26	33	3	1	124	
Exhaustion	46	48	3	4		4	32	22	7	23	8	9	2	2	105	
Mare-mus	41	31	4	2		2	40	28	4	5	1	2			80	
Total	142	123	19	14	1	10	88	57	34	43	35	44	5	3	309	

TABLE C—Continued.

	NATIONALITY.						SOCIAL RELATIONS.						Total.				
	AMERICAN.			FOREIGN.			SINGLE.			MARRIED.				Widow.	NOT REP'D.		
	Male.	Fem.	Male.	Fem.	Male.	Fem.	Male.	Fem.	Male.	Fem.	Male.	Fem.					
ORDER ONE—ACCIDENT.																	
Accidents, railroad	197	58	43	7	14	3	148	46	83	11	15	9	8	2			
Barn	72	5	13	1	8	1	48	2	33	3	5	1	7	1			
Drowning	16	19	1	1	2	..	15	13	5	..	3	2	4	..			
Poison	28	7	2	1	4	1	25	7	5	..	3	..	4	..			
Shooting	15	13	6	1	1	1	10	9	7	3	3	2	2	1			
Shooting	35	2	2	..	..	..	17	1	17	2	1	..	2	..			
Total	363	101	67	10	29	6	263	78	148	24	25	14	23	4			579
ORDER THREE—HOMICIDE.																	
Homicide	9	4	..	..	..	..	1	3	8	1	..	..	..	..			13
Total	9	4	..	..	..	..	1	3	8	1	..	..	..	..			13
ORDER FOUR—SUICIDE.																	
Hanging	6	..	3	..	2	..	3	..	3	..	..	..	2	..			8
Poison	5	5	..	..	..	..	3	1	4	2	..	..	..	..			12
Shooting	5	..	2	..	..	1	2	1	7	..	..	..	..	..			10
Suicide	43	18	19	2	12	3	26	8	34	7	9	6	5	2			97
Total	58	23	24	2	16	4	34	10	48	9	9	8	7	2			127
Unclassified	65	86	8	9	1	1	40	38	25	43	7	14	2	1			170
Unknown	141	126	19	8	35	51	114	101	44	24	6	20	31	40			380
Total	206	212	27	17	36	52	154	139	69	67	13	34	33	41			550
RECAPITULATION.																	
Zymotic diseases	2,211	2,061	123	170	52	38	1,804	1,578	448	414	93	170	41	37			4,585
Constitutional	1,043	1,327	131	120	58	63	619	481	560	721	118	263	35	55			2,712
Local	2,825	2,436	427	295	107	81	1,511	1,240	1,389	887	365	559	94	95			6,140
Developmental	429	419	79	79	12	25	250	173	125	144	131	192	14	14			1,043
Accidents and violence	430	131	91	12	45	10	298	91	204	34	34	22	30	6			719
Unclassified and unknown	206	212	27	17	36	52	154	139	69	67	13	34	33	41			550
Total	7,144	6,585	878	593	310	269	4,536	3,702	2,795	2,267	754	1,230	247	248			15,779

TAB

Causes of Death, and Grouped Ages,

CLASS ONE—ZYMOTIC DISEASES.	Under 1		1 to 5.		5 to 10.		10 to 15.		15 to 20.		20 to 30.		30 to 40.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
ORDER ONE—MIASMATIC.														
Cholera infantum	270	227	90	80	1	6		1						
Cholera morbus		1	5	5			2				1			
Croup	24	26	47	57	18	19	4			1				
Diarrhœa	6	7	4	5	1									
Diphtheria	24	20	138	133	133	148	19	30	2	4	1	4		
Dysentery	21	12	23	19	21	19	1	2	3	2	18	5	4	1
Enterocolitis	25	16	16	15	2	3	1	1	1	1	1	1		
Erysipelas	3	6	2	1	3	1	1				3		5	3
Fever, cerebro-spinal	19	13	13	13	6	4	6	5	6	5	3	6	1	
Fever, continued		1	1								1			
Fever, malarial	8	13	8	10	1	6	4	1	1	5	5	12	7	6
Fever, pernicious					1						1		1	
Fever, puerperal									9			40		27
Fever, rheumatic					1									
Fever, scarlet	21	16	66	48	27	30	5	4	2	1				
Fever, typhoid	7	8	12	9	15	20	32	19	74	59	110	68	60	46
Fever, typho-malarial		2	3		2	1	2	6	4	1	2	2	2	1
Gangrene	1		1				1	1					1	1
La grippe	19	18	13	20	2	7	3	4	9	4	16	17	10	15
Measles	17	15	27	14	14	4	1		1		4	5	8	4
Peritonitis, puerperal												9		
Pertussis	34	27	22	22	2	2	2		1					
Pyæmia	6	3	5	2	2		2		1	4	4	10	5	6
Septicæmia, puerperal									2		12			12
Total	505	431	493	456	219	272	84	72	160	102	167	192	99	129
ORDER TWO—ENTHEPIC.														
Syphilis	3	4									1		5	2
Total	3	4									1		5	2
ORDER THREE—DIETIC.														
Delirium tremens											2		1	
Insanition	160	133	6	7	1	1		1	2		2	3		2
Intemperance									1				7	1
Total	160	133	6	7	1	1		1	3		4	3	8	3

LE D.

Year Ending September 30, 1891.

40 to 50.		50 to 60.		60 to 70.		70 to 80.		80 to 90.		90 to 100.		100 or Over.		Not Rept'd.		Males.	Females.	Total.	
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.				
		4	3	2	3	2	3	1						1		361	314	675	
														2		17	15	32	
1		11	5	10	3	5	3	3	2					1		95	104	199	
4	4	11	1	9	15	19	10	5	7	1				2		42	25	67	
4	1	1			2	1	4	1	1	1				3	7	319	343	662	
2		4	1	5	1	1	1							1	1	142	104	246	
														1		48	40	88	
														1		35	17	52	
5	10	3	6	5	3	3	7	5	2	1				2	6	58	52	110	
	5	2	1	2											1	1	3	3	4
															2	7	87	87	145
															2		2	2	9
			1														83	83	166
																	2	2	4
33	19	29	15	15	13	11	4	1	2	2				16	18	121	99	220	
	1	3	2	1	2	2	6	6	4	1				3	1	417	300	717	
	1	3	2	2	2	6	6	4	3	3		1		3	1	14	22	36	
15	20	16	24	28	39	32	30	13	6	5				16	8	21	17	38	
1	2	1	1	1	1	1	1							2	1	157	212	409	
																71	46	117	
																	14	14	28
7	1	6	3	11	3	7	1			1				2		60	52	112	
	5													2	1	59	38	97	
			3											1			35	35	70
73	70	95	68	89	88	91	67	33	24	10		1		48	55	2,143	2,026	4,169	
1		1		2												13	6	19	
1		1		2												13	6	19	
3		2												1		6		6	
4	3	6	3	7	5	6	3	1	3	1	1			10	1	205	166	371	
		4		2		1										19	1	20	
7	3	12	3	9	5	7	3	1	3	1	1			11	1	230	167	397	

TABLE

CLASS TWO—CONSTITUTIONAL DISEASES.	Under 1		1 to 5.		5 to 10.		10 to 15.		15 to 20.		20 to 30.		30 to 40.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
ORDER ONE—DIATHETIC.														
Anæmia	1	1	..	..	..	..	2	..	..	2	33	1	..	3
Cancer	1	1	..	1	..	..	1	..	2	6	33	33	61	3
Dropsy	1	1	1	1	1	1	..	2	2	2	3	2	3	4
Rheumatism . . . . .	..	..	4	..	3	..	5	..	3	1	5	1	5	4
Total	3	3	5	2	4	1	8	2	7	11	15	38	40	71
ORDER TWO—TUBERCULAR.														
Hydrocephalus	7	7	3	3	..	..	..	..	..	..	..	..	..	..
Menengitis, tub	7	4	11	5	2	3	..	1	1	1	1	1	1	..
Phthisis	25	22	26	18	9	14	8	26	84	149	265	319	195	225
Scrofula	7	4	5	4	3	3	2	1	1	1	..	1	..	..
Tabes mesenterica	1	1	3	1	..	..	..	1	..	1	2	2	1	3
Total	47	38	48	31	14	20	10	29	86	151	268	322	197	228

D—Continued.

40 to 50.		50 to 60.		60 to 70.		70 to 80.		80 to 90.		90 to 100.		100 or Over.		Not Rept'd.		Males.	Females.	Total.
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.			
17	1	23	34	20	2	2	1	3	6	1	..	..	..	6	6	12	11	23
7	51	15	13	10	22	10	31	5	4	1	..	..	..	4	4	122	266	388
6	6	7	7	12	2	2	21	..	2	..	..	..	..	..	..	63	83	146
							7									52	33	85
30	67	45	54	46	62	26	60	8	12	2	..	..	..	10	10	249	393	642
..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	1	11	11	22
1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	25	13	38
97	121	80	68	64	43	26	25	5	4	1	..	..	..	28	28	913	1,062	1,975
..	..	..	..	..	..	..	1	..	..	..	..	..	..	4	2	22	19	41
..	1	2	1	2	1	..	..	..	..	..	..	..	..	1	..	12	12	24
98	122	82	70	66	45	27	26	5	4	1	..	..	..	34	31	983	1,117	2,100

TABLE

CLASS THREE—LOCAL DISEASES.	Under 1		1 to 5.		5 to 10.		10 to 15.		15 to 20.		20 to 30.		30 to 40.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
ORDER ONE—NERVOUS.														
Apoplexy	2			2	1		1	2	1		2	6	9	10
Brain, abscess			1								1		1	
Brain, congestion	32	26	18	25	1	6	7	2		2	1	3		5
Brain, disease	7	3	2		2				1		1	3	2	
Brain fever	14	9	14	6	3	5	1	1	2	2	2	2	4	
Brain, softening	1												2	
Cerebritis	31	8	13	8	5	1	2	4		2	1	4	5	6
Convulsions	120	92	13	15	1	4	1	5	1		1	2	2	5
Epilepsy	1			1			6	3	3	1	4	3	3	7
Insanity									1	1			1	
Locomotor ataxia														1
Menengitis	54	38	52	5	6	15	7	8	7	8	5	12	6	1
Menengitis, cerebral	8	8	6	7	2	3	1	1	1	1	2	2	2	
Menengitis, spinal	5	1	9	5	3	2	2	2	2	2	1		1	1
Paralysis	2	1	4	1	1	1	1	2	5	4	4	5	9	3
Spina bifida	4	5												
Spine disease	6	10	6	1	3		1	2	2	1	2	4	1	
Tetanus	5	3	2	1					2		1		2	
Total	292	201	140	124	28	37	30	32	28	25	28	46	51	40
ORDER TWO—CIRCULATORY.														
Congestion	6	3	2		1	1					1	1		2
Heart disease	27	16	8	10	5	3	9	14	14	8	27	37	40	48
Hæmorrhage	2	2	1	1		1			1		1	1	1	3
Total	35	21	11	11	6	5	9	14	15	8	29	39	41	53
ORDER THREE—RESPIRATORY.														
Asthma											1			1
Bronchitis	54	54	28	23	8	3	1	1	1		5	8	6	7
Emphysema	1	1	1						1		1		1	
Hæmoptysis		1	1	1				1	1		1		1	1
Laryngitis	2	1	6	5	1	3		1		1				
Lungs, abscess													3	3
Lungs, congestion	19	17	8	8	1		1		1		2	1	4	3
Lungs, disease	2	1	1	1		1	1	1	3	1	1	3	1	1
Pleuritis	1		1						1		1		1	
Pneumonitis	98	73	82	65	14	23	15	8	28	28	42	54	45	46
Pneumonitis, broncho	2	3		1					1					
Pneumonitis, catarrhal	1	3	1	1			1				1	1		1
Pneumonitis, pleuro	1										2	1	1	
Pneumonitis, typho				2		3	1	1	3	3	3	2	4	
Total	181	154	129	107	24	33	20	13	37	35	58	72	66	66

D—Continued.

40 to 50.		50 to 60.		60 to 70.		70 to 80.		80 to 90.		90 to 100.		100 or Over.		Not Rept'd.		Males.	Females.	Total.
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.			
17	9	39	19	44	28	40	23	16	11		1			2	7	174	118	292
1				1	1											5	2	7
4	2	3	5	2	1	1	3	2	1					2		73	80	153
1		1	1	3			4	1	1							24	10	34
1				1	1											44	28	72
5	2	5	1	14	9	7	2							2	1	34	14	48
4	1	7	3	2	9	6	3	1	1					1		78	51	129
2		3													6	143	190	273
1		2		1		1								1		22	15	37
3		1		3			1									11	2	13
4	2	3	1	3	1	2	3	1						2	8	7	3	10
			1	2		2									1	151	148	299
	1			2												24	25	49
12	7	18	22	44	29	61	52	25	23	2	1			5	8	25	14	39
1		2	1	2		1		1		1						193	159	352
1																4	5	9
	2															29	19	48
																14	6	20
60	27	84	56	123	80	127	86	46	37	3	2			15	33	1,055	829	1,884
	1			1												11	9	20
51	61	88	54	113	86	94	74	33	25	6	3			14	22	529	441	990
	3	1	1	1	2	2	1		2					1	1	11	18	29
51	65	89	55	115	88	96	75	33	27	6	3			15	24	557	488	1,039
2	1	1	1	4	10	4	4	3	2						2	14	22	36
3	4	6	7	15	20	18	16	5	8	2				5	1	157	152	309
				3		1										10	1	11
3		1	1	2				2								13	7	20
1					1			1								11	13	24
	3	1			1		1		1							4	10	14
2	1	2	2	7	3	2	2		1					2		51	38	89
1	3			3	2	3	1	2	1						1	15	18	33
1	1			3		1	1	1						1		10	4	14
42	35	48	41	57	40	38	43	19	20	1	1			20	14	549	491	1,040
																4	5	9
1				1		1	3	1	1							8	10	18
							1									5	3	8
	2	1		2												14	13	27
56	50	60	53	96	77	72	73	35	33	3	2			28	19	865	787	1,652

TABLE D—

CLASS THREE—LOCAL DISEASES.	Under 1		1 to 5.		5 to 10.		10 to 15.		15 to 20		20 to 30.		30 to 40.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
ORDER FOUR—DIGESTIVE.														
Bowels, catarrh	2	2		2									1	
Bowels, congestion	11	8	4	4	1	1	1	1	1	3		2	2	
Bowels, disease	2	1	1		1		1			1	1	4	2	
Bowels, hemorrhage	3	1							1	1	1	1		
Bowels, obstruction	3	5		6	4	2	2			4	1	1	2	
Colic	3	1	1											
Colitis	3	2	2											
Dyspepsia	5	5												
Enteritis	36	22	15	11	4	5	3	1	3	3	7	10	4	1
Gall stones												1	1	
Gastritis	11	4	3	4	1	1		4		2		10	3	8
Gastro-enteritis	14	10	5	1					2	2		1		
Hepatitis	1	2	2				1			2	1	1	1	
Hernia	4	1										2	2	
Intussusception		1	1		1				1				1	
Jaundice	6	8		3	1							1	2	
Liver, abscess			1		1	1					3	2		
Liver, cirrhosis	1		1							1		5	1	
Liver, congestion	1	1										2		
Liver, disease	1									1	2		2	
Ösophagus stricture														
Peritonitis	7	3	3	3	6	5	2	1	10	8	10	20	4	25
Stomach, catarrh	1	1										1		
Stomach, congestion	2	3	10	5		1		1			3		1	
Stomach, disease	1	1						1		1				
Stomach, ulceration												2	2	
Stomatitis	1	6		3		1		1				1	2	
Tonsillitis	2		3		5		1	1			1			
Typhlitis			1		1		2			1				
Total	121	87	53	45	25	18	9	13	14	17	34	55	40	51
ORDER FIVE—URINARY.														
Albuminuria	1				1				1		1	1	1	2
Bladder disease												1		
Calculus														
Cystitis	1										3		3	
Diabetes			1	1			2		2		4	4	6	
Kidney disease			1	1	2						8	9	1	9
Nephria			6		2	1	2	2	2		8	9	4	1
Nephritis	2		4	4		7		2		1		2	1	4
Prostatitis												1		
Uremia	1		1			1	1	2	2	1	1	3	2	3
Total	5		13	6	5	9	5	6	7	2	18	19	20	19
ORDER SIX—GENEERATIVE.														
Metritis												5		1
Ovarian tumor												2		1
Total												7		2
ORDER EIGHT—INTEGUMENTARY.														
Abscess	5	2	2	2	3	1						1	2	2
Tumor	1		1					2				1	1	
Total	6	2	3	2	3	1		2				2	3	

Continued.

40 to 50.		50 to 60.		60 to 70.		70 to 80.		80 to 90.		90 to 100.		100 or over.		Not Rept'd		Males.	Females.	Total.
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.			
2	5	3	1	2	2	1	2	..	..	..	..	..	..	..	..	5	5	10
5	3	2	1	4	2	1	1	..	..	..	..	..	..	..	..	30	24	54
1	1	1	1	1	1	5	3	1	..	1	..	..	..	2	..	16	12	28
1	1	5	2	5	1	1	..	..	..	..	..	..	..	2	..	10	5	15
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	31	25	56
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5	1	6
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5	8	13
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	8	7	15
3	6	5	5	5	8	2	6	3	3	..	..	..	..	1	4	95	81	176
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4	4	8
4	3	1	1	1	7	13	3	1	1	..	..	..	..	2	1	55	53	108
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	29	16	45
2	1	1	1	3	4	2	3	1	1	..	..	..	..	1	1	19	15	34
1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	15	12	27
1	1	2	1	2	2	1	1	..	..	..	..	..	..	..	1	8	7	15
4	1	1	..	1	..	1	6	..	1	..	..	..	..	..	..	13	15	28
1	4	2	3	3	2	4	1	..	..	..	..	..	..	2	..	13	6	19
1	1	2	2	3	1	4	4	2	..	..	..	..	..	..	..	30	15	45
5	8	1	6	3	7	3	4	2	..	1	..	..	..	..	..	7	5	12
1	3	1	4	3	2	2	3	..	..	..	..	..	..	..	..	15	13	28
1	1	3	1	1	4	3	3	..	..	..	..	..	..	..	..	2	1	3
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	10	5	15
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	17	20	37
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	9	5	14
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	13	9	22
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	9	10
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	11	5	16
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4	3	7
34	38	71	33	66	50	60	43	13	6	2	..	..	..	11	14	553	470	1,023
2	1	3	2	2	..	2	1	1	..	..	..	..	..	1	..	10	8	18
1	..	1	1	1	1	..	8	..	5	..	..	..	..	..	..	8	2	10
2	2	3	1	2	7	1	8	..	1	..	..	..	..	..	..	4	3	7
2	2	1	5	13	1	1	8	..	1	1	..	..	..	2	1	32	3	35
17	7	18	8	28	10	29	16	3	4	..	..	..	..	..	..	43	14	57
3	3	4	5	14	3	6	3	..	..	..	..	..	..	..	..	15	7	22
5	3	..	3	5	2	5	3	6	1	..	..	..	..	..	..	20	7	27
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	42	36	78
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	7	7	14
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	29	22	51
34	18	30	26	77	20	63	24	28	1	1	..	..	..	4	13	310	163	473
..	2	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	9	9
..	2	..	2	..	1	..	1	..	..	..	..	..	..	..	..	..	9	9
..	4	..	2	..	2	..	1	..	..	..	..	..	..	..	..	..	18	18
1	6	2	2	2	..	2	..	..	..	..	..	..	..	1	..	20	16	36
1	2	..	1	1	1	1	1	..	1	..	..	..	..	..	..	6	9	15
2	8	2	3	3	1	3	1	..	1	..	..	..	..	1	..	26	25	51

TABLE D—

CLASS FOUR—DEVELOPMENTAL DISEASES.	Under 1		1 to 5.		5 to 10.		10 to 15.		15 to 20.		20 to 30.		30 to 40.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
ORDER ONE—CHILDREN.														
Birth injuries	4	2	.	.	.	.	.	.	.	.	.	.	.	.
Birth, premature	69	55	.	.	.	.	.	.	.	.	.	.	.	.
Cyanosis	64	39	.	.	.	.	.	.	.	.	.	.	.	.
Malformation	9	4	.	.	.	.	.	.	.	.	.	.	.	.
Total	146	100	.	.	.	.	.	.	.	.	.	.	.	.
ORDER TWO—WOMEN.														
Parturition . . . . .	.	.	.	.	.	.	.	.	5	.	12	.	7	.
Post Part. Hem. . . . .	.	.	.	.	.	.	.	.	.	.	2	.	6	.
Puerperal eclampsia . . . . .	.	.	.	.	.	.	.	.	4	.	13	.	2	.
Total . . . . .	.	.	.	.	.	.	.	.	9	.	27	.	15	.
ORDER THREE—OLD AGE.														
Old age . . . . .	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Total . . . . .	.	.	.	.	.	.	.	.	.	.	.	.	.	.
ORDER FOUR—NUTRITION.														
Debility	9	4	1	1	.	1	.	.	1	2	.	2	.	.
Exhaustion	26	16	3	.	.	1	.	5	.	.	2	2	.	4
Marasmuth	37	20	2	6	.	1	.	1	1	.	.	.	.	3
Total	72	40	6	7	.	3	.	5	1	2	2	4	.	7

Continued.

40 to 50.		50 to 60.		60 to 70.		70 to 80.		80 to 90.		90 to 100.		100 or over.		Not Rept'd.		Males.	Females.	Total.
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.			
																4	2	6
																69	55	124
																64	89	163
																9	4	13
																146	100	246
	4		1											5			33	33
	2													1			10	10
														3			24	24
	6		1											9			67	67
		1	1	9	17	76	62	89	99	29	20		4	8	6	212	209	421
		1	1	9	17	76	62	89	99	29	20		4	8	6	212	209	421
1	1	1	2	19	15	18	15	14	11	1	2				3	68	56	124
3	8	3	10	3	1	4	6	3	1	1				1	2	49	56	105
			1	1		4	3									45	35	80
4	9	4	13	23	16	26	24	17	12	2	2			1	5	162	147	309

TABLE

CLASS FIVE—VIOLENCE.	Under 1		1 to 5.		5 to 10.		10 to 15.		15 to 20.		20 to 30.		30 to 40.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
ORDER ONE—ACCIDENT.														
Accident	20	22	11	10	17	1	18	3	27	3	43	4	35	8
Accident, railroad	1	1	6	4	4	4	2	1	6	1	38	4	17	3
Burn	1	1	1	1	3	1	2	1	2	2	11	1	4	1
Drowning	1	2	4	5	1	1	1	2	5	2	3	2	4	1
Poison	1	2	4	5	1	1	1	2	5	2	3	2	4	1
Shooting	1	2	4	5	1	1	1	2	5	2	3	2	4	1
Total	22	25	23	19	28	7	30	7	44	8	108	13	65	14
ORDER THREE—HOMICIDE.														
Homicide	1	1	1	1	1	1	1	1	1	1	5	2	2	1
Total	1	1	1	1	1	1	1	1	1	1	5	2	2	1
ORDER FOUR—SUICIDE.														
Hanging	1	1	1	1	1	1	1	1	1	1	2	1	1	1
Poison	1	1	1	1	1	1	1	1	1	1	4	1	1	3
Shooting	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Suicide	1	1	1	1	1	1	2	3	2	1	17	10	18	2
Total	1	1	1	1	1	1	2	3	2	2	24	12	21	5
Unclassified	20	16	4	6	4	3	3	2	3	1	5	15	7	17
Unknown	77	84	7	12	6	7	6	4	4	3	26	9	11	11
Total	97	100	11	18	10	10	9	6	7	4	31	24	18	28
RECAPITULATION.														
Zymotic	668	568	499	463	250	273	84	73	109	102	172	195	112	134
Constitutional	50	41	53	33	18	21	18	31	93	162	283	360	237	299
Local	640	468	349	295	91	103	73	80	101	87	167	240	221	233
Developmental	218	140	6	7	3	3	5	1	11	2	29	4	22	22
Accidents and violence	22	25	23	19	28	7	32	10	46	11	137	27	88	19
Unclassified and unknown	97	100	11	18	10	10	9	6	7	4	31	24	18	28
Total	1696	1342	941	835	397	417	216	205	357	377	792	875	680	735

D—Continued.

40 to 50.		50 to 60.		60 to 70.		70 to 80.		80 to 90.		90 to 100.		100 or Over.		Not Rept'd.		Males.	Females.	Total.
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.			
20		18		22	5	17	3	2	5					4	2	254	68	322
9		8	1	6	1	5	2							1		93	7	100
										1						22	15	37
4	2	1												3		19	20	39
4		3		1										1	1	34	7	41
		4				1								1		37	3	40
39	7	34	1	29	6	25	4	2	5		1			10	3	459	120	579
2	1															9	4	13
2	1															9	4	13
3				2												8		8
2				1												7	5	12
2																9	1	10
6	2	3												1		9		
		8		11	3	6		1	1					3		74	23	97
13	2	11	1	14	3	6		1	1					4		98	29	127
5	12	5	11	2	10	12	1	1	1	1				2	1	74	96	170
6	11	13	11	12	9	14	11	2						11	13	195	185	380
11	23	18	22	14	19	26	12	3	1	1				13	14	269	281	550
81	73	109	71	100	93	98	70	34	27	11	1	1		59	56	2,336	2,199	4,535
128	189	127	124	112	107	53	86	13	16	3				44	41	1,232	1,510	2,742
237	210	336	228	480	318	421	303	155	105	15	7			73	104	3,359	2,781	6,140
4	15	5	15	32	33	102	86	106	111	31	22		4	9	20	520	523	1,043
54	10	45	2	43	9	31	4	3	6		1			14	3	566	153	719
11	23	18	22	14	19	26	12	3	1	1				13	14	269	281	550
515	520	639	462	781	579	731	561	314	266	61	31	1	4	212	238	8,332	7,447	15,779

ACUTE LUNG DISEASES.

The reported number of deaths from these diseases within the year is as follows :

Bronchitis	309
Congestion of the lungs	89
Pleurisy	14
Pneumonitis	1,040
Broncho pneumonia	9
Catarrhal pneumonia.....	18
Pleuro-pneumonia	8
Pypho-pneumonia	27
Total.....	1,523

As is well known these figures are not correct and perhaps do not represent quite fifty per cent. of the deaths from these diseases; but at the same time we can arrive at conclusions that will give us quite a correct idea of the mortality from this class of acute lung troubles.

Undoubtedly many of these diseases were due to exposure after an attack of La Grippe, which prevailed in this State in an epidemic form the past two winters. A large per cent. of the deaths from these diseases occurred during the prevalence of the epidemic.

After an examination of the figures published in our statistical tables, we are led to the conclusion that the people were careless, and unnecessarily exposed themselves. In this climate during the months attended with the greatest fatality, the weather is very changeable. When a mild day comes many persons will lay off their overcoats, mufflers and overshoes, which they have been accustomed to wearing, and the result is a large number of them pay the penalty in sickness and death from these diseases. If the people could be educated to take the proper care of themselves, the sickness and mortality from this class of diseases would be greatly lessened.

DIARRHOEAL DISEASES.

In this class we have grouped together cholera infantum, cholera morbus, diarrhoea, dysentery and entero-colitis. The whole number of deaths reported within the year from this class of enteric diseases was 1,118. The disease attended with the greatest fatality was cholera infantum, which caused 675 deaths; 497, or a fraction over 70 per cent., were under one year of age. The greatest number died in the months of July, August and September.

As a very large per cent. of the victims of these diseases are children under one year of age, we will repeat what we said in a former report, that this class of trouble is either due to the ignorance or the negligence of the parents in caring for their young ones is very largely responsible for so many being taken to an early grave, that have perished from diseases easily prevented by the observance of a few hygienic laws. Especially is this true in the cases of cholera infantum and the summer diarrhoea of children. Too frequently mothers refuse to look after and care for their own off-spring as it takes too much of their time from the gay pleasures of the world. The little child, in the beginning of life, is placed in charge of a nurse who may be entirely ignorant (generally is) of the duties to be performed, knowing nothing about the proper feeding, cleaning and clothing of a child, and having only a mercenary interest in its welfare.

If she be a wet nurse, the probabilities are that at the time of her engagement no investigation has been made to determine if she be free from disease, or whether the germs of consumption, scrofula or syphilis be present in her system.

Often the wet nurse is dispensed with and the child is nourished with milk from a cow diseased with tubercle or cancer, or else upon some one of the numerous already prepared infant foods "sold by all druggists," or given food only fit for the stomach of an adult. There is no food so healthy for an infant as its mother's milk. All others are frauds when compared with it.

We insist that mothers should always nurse their children unless they are physically incapacitated. Clothing and cleanliness of the child are also neglected, and pure, fresh air and sunlight to develop its growth are seldom considered.

These are a few of the causes that play an important part in the development of this class of diseases in children. The following are some of the causes which tend to produce this class of maladies in all stages of life :

Unsanitary surroundings of homes such as defective plumbing and house drainage, soil moisture, decaying animal and vegetable matter, depressing influence of warm weather, improper clothing, want of cleanliness, crowd poison, drinking polluted water, and eating tainted and unwholesome food, and the every day violation of well established health laws. There can be no doubt but that the prevalence and mortality of these diseases can be materially lessened by strict observance of sanitary and hygienic laws.

MALARIAL FEVERS.

In this group we have placed congestive chill, bilious, catarrhal, congestive, intermittent, remittent and malarial fevers. The total number of deaths from these causes within the year was 187, the greatest number of which occurred in the months of August, September and October.

Vital statistics collected in this State since the organization of the State Board of Health, shows that this class of febrile diseases are slowly but surely disappearing. This we believe to be largely due to the more extensive cultivation of the soil, and the improved sanitary condition brought about by the extensive drainage of the land, caused by the enforcement of the ditch laws

LETTERS FROM COUNTY HEALTH OFFICERS.

ADAMS COUNTY.

C. N. Metcalf, M. D., Indianapolis, Ind. :

DEAR DOCTOR—In reply to your letter of October 21, will say that the sanitary condition of this county for the year ending September 30, 1891, has been very good. We have had a few sporadic cases of typhoid fever, diphtheria and scarlet fever, but no epidemics whatever.

The school houses, as a rule, are substantially built, and well ventilated.

The county jail is fairly well ventilated, and is clean. The city prison is an eye-sore to the community, and a relic of the dark ages, abominably dirty, with scarcely any ventilation. It has been condemned several times. The county asylum is clean and well-ventilated.

Respectfully,

H. F. COSTELLO, M. D.

BARTHOLOMEW COUNTY.

C. N. Metcalf, M. D. :

The area of this county embraces nearly four hundred square miles, most of which is fine productive land, and supports a population of about twenty-four thousand people, in a prosperous condition, who have never enjoyed better health than during the year ending September 30, 1891. They were peculiarly exempt from epidemics of contagion, save that of la grippe, although scarlet fever was reported from several neighborhoods, it did not spread as an epidemic. Measles also occurred in different parts of the county, but not in an epidemic form.

To verify the foregoing, I refer to the register of deaths, which shows but 215 deaths in the county, 112 of these occurred in the city of Columbus, three of which were accidental, the individuals not being citizens of the county. Such a record indicates that the natural drainage of the county is good, although there were in the eastern and southern parts of the county some slosh lands. They have been well drained by the means of tile and open ditches, and now produce fine crops. However, we have scattered through the county ponds or sloughs, which, if drained, would add much to the beauty and healthfulness of the surrounding neighborhood. But if I am correctly informed, they are located where the water lies near the surface, and would have to be filled, as sufficient fall to drain them can not be had.

There are undoubtedly many places in the county that should be regarded with suspicion if not as absolutely dangerous to health, for the drainage is imperfect, and storm-water and seeping from barn yards is allowed to form filthy puddles that serve as culture beds for the production and propagation of disease producing germs. Then we find places where surface-water and seepings from filthy sodden soil is permitted to find its way into the wells from which the water for domestic purposes is taken. However fruitful these sources of disease may be, they are under the control of the house holders, and should not be allowed to exist

The school houses in this county are good, most of them are of stone and brick, located on dry lots, with good natural drainage. Most of them are heated by stoves, and ventilated by sash and cords. In the rear of the buildings are found suitable water-closets, placed over a vault. The wells from which the drinking water is obtained are found in the front yards. All the appointments are kept in good order.

The county asylum is located one and a half miles south-west of Columbus, on dry, sandy land. The three-story building is of brick and stone; wide halls separate the male and female apartments; the rooms are large and well ventilated; there is a large attic, also well ventilated by means of ventilators; the building is heated by a furnace; the water-closets are placed in the back yard, over deep vaults. The water is obtained from a good well. The grounds are well drained, and the place kept in good order.

The court house is a superb building, of stone, brick and iron, which renders it almost fire-proof. The rooms are large and well ventilated, heated by steam; the basement is dry kept free from moisture by the steam-pipes which pass through every part of it. The water-closets are well trapped and flushed, so that all effete material is carried into a large under-ground sewer, which empties into the river. Storm water is carried by the down-spouts through tile. Altogether the building is kept in a good sanitary condition.

The sanitary condition of the county jail could be improved, as there is a lack of ventilation in the lower part. This is possibly caused by its being surrounded with a high brick wall, with an air space of some eight feet between the jail and wall. The lower floor is laid with large cut flag-stone, and the rooms lined with boiler iron. The second floor is laid with iron grating. Upon this is placed an iron cage, within which are cells. The prisoners are supplied with water from a hydrant, and of course all the leakage and waste falls down upon the stone floor, and as the building is heated by steam, the moisture gathers on the iron work. The contents of water-closets are disposed of in same manner as that of the court house.

Columbus, the county seat, is located on rather a flat point on the east bank of Driftwood, and good drainage could be readily established, but at present there is no efficient system in operation. We have open gutters on either side of the streets, but the grade is not sufficient to prevent storm water collecting in puddles in the alleys, streets and gutters; here it evaporates or soaks into the ground, carrying with it all filth held in solution.

Most of the water-closets are placed over vaults which are dug down to the sand, which underlies the city at a depth of from seven to ten feet. In this bed of sand, which is from ten to fifteen feet deep, flows the first sheet of water which most of the water for family use is drawn. But I must not forget to mention that there is a large under-ground tile sewer from Seventh Street south on Washington Street to the river. Into this sewer numbers of water-closets discharge their contents, all of which is emptied into the river.

The water-closets of the Cerealine Manufacturing Company, and the railroad station discharge their contents through a tile and open ditch into the river.

A study of the foregoing will furnish an explanation why half the deaths of the county occur in the city of Columbus, where only one-third of the population of the county reside.

J. S. ARWINE,
Secretary Bartholomew County Board of Health.

BENTON COUNTY

C. N. Metcalf, M. D., Secretary State Board of Health:

DEAR DOCTOR—The sanitary condition of Benton County during the past fiscal year has been good. The county asylum for the poor is in excellent condition, and there has been no epidemic or contagious disease among the inmates. The condition of the jail is also very good. The county has been blessed from severe scourges of disastrous diseases. Two cases of diphtheria with one death and a few cases of scarlet fever without the loss of life have been reported.

The death rate in this county has for years been very small. During the latter part of the winter there was quite an epidemic of La Grippe; fortunately, however, very few cases proved fatal.

During the summer there were about eight or nine cases of glanders among the horses of the south part of the county. Timely interference and the killing of all infected, effectually stamped it out.

Yours truly,

CLARK COOK, M. D.,
Secretary.

BOONE COUNTY.

C. N. Metcalf, M. D.:

DEAR DOCTOR—I am truly glad to be able to report to you that Boone County, with the exception of La Grippe, was not distressed with anything like an epidemic. La Grippe, during the first part of the year, was quite prevalent, but so far as I know deaths attributed directly to it were very few; of course many died from other causes during the period that would otherwise not have done so.

We have not had a case of small-pox in the county. Scarlet fever has been a visitor. Several cases having been reported from different parts of the county. The cases were sporadic and mild in type, with the exception of this city. At the present time we are having a number of cases, the source of which seems to be from the excavating of an old sewer for the purpose of putting in one of greater capacity.

There has been a few cases of diphtheria reported, and I feel sure all have been reported that have been attended by a physician. There were three cases of crebro-spinal meningitis reported—two deaths. Fevers, typhoid and malarial of typhoid type, were more prevalent, but few deaths were reported. Croupous pneumonia was not as severe as it frequently is in this county; it is one of our fell destroyers.

There has been a greater number of deaths reported from that terrible enemy, tuberculosis, than we have ever before known.

I am happy to state that our county for the year ending September 30, 1891, was in a fair sanitary condition. The spade and tiling has done much for us in the last few years. Physicians and local boards of health, are ever ready to assist the health officer in the discharge of his duty. I am convinced that through vigilance all contagious diseases can be controlled so as to limit them to the place of origin. Isolate the sick from the well, and all will be well.

School buildings throughout the country are in good condition, most of them being new.

Dear Doctor, I have nothing further to communicate, but would urge you to continue to spur up the physicians, that we may have full statistics.

Very truly yours,

WM. H. SCHULTZ, M. D.,
Secretary Board of Health.

CLAY COUNTY.

C. N. Metcalf, M. D., Indianapolis, Ind.:

DEAR DOCTOR—In reply to your letter will say that the sanitary condition of our county asylum and jail is good. We have had some typhoid fever, scarlatina and measles, but nothing like an epidemic. The physicians report births promptly, but the death report is very light.

Yours respectfully,

B. F. SPELBRING,
Secretary Clay County Board of Health.

CLINTON COUNTY.

Chas. N. Metcalf, M. D., Indianapolis, Ind.:

DEAR DOCTOR—There is nothing very unusual to report in regard to the health and sanitary condition prevailing in this county during the past year ending September 30, 1891. There was more diphtheria than common, the outbreak beginning in the city of Frankfort last fall, and although the number of cases was not large, the fatality among first cases was heavy, reaching 62 per cent. for the quarter ending December 31, 1890. In other respects the health of our citizens has been very fair.

The public institutions are in good sanitary condition.

Respectfully yours,

S. B. SIMS,
Secretary Clinton County Board of Health.

CRAWFORD COUNTY.

C. N. Metcalf, Indianapolis, Ind.:

MY DEAR DOCTOR—In reply to your letter of this day, will say that the sanitary condition of this county (Crawford), is in excellent condition. We have had a few cases of typhoid fever, some of scarlatina and diphtheria, some of small-pox, nothing like epidemic. The physicians mostly report, but there are some in rural districts who do not report.

Very respectfully yours,

C. D. LUCKETT,
Secretary Crawford County Board of Health.

DEKALB COUNTY.

C. N. Metcalf, M. D., Indianapolis, Ind.:

In response to yours of recent date concerning the sanitary condition of this, Dekalb County, I have to say that during the year ending October 31, 1891, it has been in most excellent condition so far as I have been able to learn. We have had quite a number of cases of typhoid fever, but no epidemic.

The county jail is in first-class condition, being well ventilated, heated, etc. The county infirmary is also in a first-class condition, as are also the public school buildings throughout the county.

Very respectfully,

FRANK BROUGHTON,

Secretary Dekalb County Board of Health.

DELAWARE COUNTY.

Dr. C. N. Metcalf:

With but few exceptions the health of this county has been good the past year. During the month of September, an epidemic of diphtheria prevailed in the northwest portion of the county, near New Corner, and six or seven deaths resulted therefrom. Isolation and other measures were instituted, and the disease was limited to a few families. A few sporadic cases occurred in Muncie. Through the co-operation of the City Board of Health and City School Superintendent, the exanthemata have not become epidemic in Muncie. Typhoid fever has been much less prevalent than a year ago. In the vicinity of Shideler a number of cases have occurred.

Physicians are becoming more prompt and careful in making reports. I sent personal letters to each, asking for a strict observance of the law, also enclosed printed slips containing law concerning reports, which was also printed in the county papers.

The sanitary condition of the jail has been good. I have visited it frequently and attended such cases of sickness as have occurred among the prisoners.

The Matron of the Orphans' Home reported a defect in the plumbing of one of the closets in the basement, and the necessary corrections were made. This building is new, well ventilated, well lighted and well kept.

A fire having destroyed the county infirmary, five miles east of Muncie, the County Commissioners at once began the construction of a commodious and suitable structure which is now almost completed.

With the influx of population, Muncie is assuming the proportions of a city, but sanitary measures are greatly neglected. The City Health Board should be better paid and should be empowered to act authoritatively in all sanitary matters.

I have made chemical tests of water from various wells in the city and country. But few wells in Muncie contain drinkable water. Some cases of typhoid fever in the country have been traced directly to filthy wells, although the surroundings appeared exceptionally clean.

Respectfully submitted,

H. A. COWING,

Secretary Delaware County Board of Health.

FLOYD COUNTY.

C. N. Metcalf, M. D.:

In response to a letter just received from you asking for the sanitary condition of this, Floyd County, I will say that for the past year it has been good. As to contagious diseases, scarlet fever is the only one which has prevailed to any great extent, the prevalence being due in several instances to the disease being so mild that a physician was not called in time to prevent its spread, but when recognized by physicians, the regulations laid down by the State Board of Health have been adhered to.

Our poor asylum, jail, school houses and orphans' home, are well ventilated, and are in a good, healthy condition. A few cases of measles were reported, but in no locality was the prevalence of disease sufficient to be regarded as an epidemic. Isolation has been observed in contagious diseases, and disinfection has been fairly practiced.

Yours respectfully,

C. W. MCINTYRE, JR., M. D.,
Secretary County Board of Health.

FOUNTAIN COUNTY.

Dr. C. N. Metcalf, Secretary State Board of Health, Indianapolis, Ind.:

DEAR DOCTOR—The general health of Fountain County for the year ending September 30, 1891, was good. The mortality from all causes has been as low, and probably lower, than other counties of Indiana. I can say that the general sanitary condition of the county, although not being up to the standard of perfection, is certainly in a good condition, and more than that, it is a gradual growth of improvement from year to year. The people of Fountain County are fast learning the truth that it is much better to prevent the contraction and spread of diseases than it is to cure them, and they take advantage of such knowledge.

The sanitary condition of the school houses of the county is probably upon an average of that of other counties. They are thickly dotted over the county, usually located upon a good site of rising ground; all, or nearly all, new, frame buildings, well painted, and mostly heated with coal, and generally ventilated from top of window. Water is supplied from wells of nearest farmers. The city schools and Normal College of Covington are supplied with water from wells contiguous to the buildings. None of the schools are supplied with wash-bowls, towels, etc., for the pupils.

The county jail is a very substantial structure, and but for the imperfection of the sewers leading to the Wabash River bottoms, the building would be first-class.

The county house and large farm connected therewith is under good management. The building is a large brick, and the sanitary condition is good. There is, however, at times a deficiency in soft rain water.

With the exception of la grippe, last winter, there has been no epidemics of a fatal character. A very large number of inhabitants were seized with that malady, and the mortality was exceedingly small. Pulmonary consumption has reaped a

larger harvest than any other disease, and the mortality among children one and two years of age of diseases incident to those of tender years, has been less than years previous.

The means used to prevent the spread of diseases is mostly that of the good sense and judgment of the people, regardless of those who have authority in such matters. Not all contagious diseases are reported to the Health Officer in this county by the physicians. Neither are the deaths and births reported as they should be. One of the reasons, this year, the reports have not been perfect is that a former Health Officer wrote to physicians not to send in reports until he should write and request them to be sent. There is no authority of law for Health Officers to write each physician at stated intervals to send in reports. The statute plainly states the duties of physicians. But a majority of physicians in this county comply with the law.

There have been a few cases of typhoid fever, and death therefrom, during the year. There has been an increase in number of cases of intermittent fever during the year.

Very respectfully,

GEO. ROWLAND,

Secretary Board of Health.

GIBSON COUNTY.

C. N. Metcalf, Secretary, Indianapolis, Ind.:

SIR—In reply to yours of the 1st inst., there is nothing of consequence to report concerning the sanitary condition of Gibson County. During the past year occasional cases of scarlatina have been reported from Princeton, Oakland City and Patoka, but no epidemic has occurred. One case of diphtheria was reported, but the patient was a visitor who probably contracted the disease in St. Louis, Mo. The case was promptly quarantined and no other cases developed. Typhoid fever cases have been exceedingly rare, and the general health throughout the year has been exceptionally good.

The county asylum, which is new, is large, well lighted and heated by hot air process. It is clean, and well conducted by the Superintendent. The only defect is in the arrangement of rooms, which is such that the separation of the sexes is impossible. The orphans' home is so crowded that the sanitary provisions are limited. There is not room for separation of sick children from healthy ones.

Respectfully yours,

G. L. DORSEY,

Secretary.

GRANT COUNTY.

C. N. Metcalf, Secretary State Board of Health:

DEAR DOCTOR—In compliance with your request to furnish a short article concerning the sanitary condition of this (Grant) county for the past year, I submit the following brief report:

Bearing in mind the fact that Grant County has, in round numbers, a population of about 40,000, including the city of Marion with her 12,000 inhabitants, I think it can be truthfully said that the health of the people of this county for the year ending September 30, 1891, was at least reasonably good.

That the general health of the people of this community has been steadily improving for the past several years will not, I think, be denied by those familiar with the facts. This happy condition of affairs is attributable in great measure:

1st. To the greatly improved surface drainage of the county, brought about by the many open and the innumerable underground ditches traversing the face of the country in every direction.

2d. The abundant supply of pure drinking water, especially the unexcelled artesian water of this city.

3d. An ample quantity and diversified variety of good, wholesome food, both animal and vegetable.

4th. The thousands of modern built homes, comfortably warmed by a never-failing supply of natural gas.

5th. The growing habit of the people of wearing overshoes and flannel under-clothing during the winter months. And,

6th. A constantly increasing knowledge of sanitary laws, and a disposition to avoid or combat the causes of disease on the one hand, and upon the other to limit, as far possible, its spread when it does occur.

The numerous newly made gravel roads intersecting our county in every direction, not only make it possible for the traveler to get about with greater rapidity and ease, but the almost universal use of modern conveyances with their improved means of protection against inclemency of the weather, and the equally common use of water-proof apparel, go far towards protecting the health of those who are obliged to face the storm or to be out of doors in rainy weather. Hence, I believe that such diseases as pneumonitis, pleuritis and bronchitis, are less common than formerly.

Again, the location of some seventy or eighty manufacturing establishments in this city, or elsewhere in the county, during the past four years, by giving steady employment to the laboring classes at good wages, and the numerous other improvements and conveniences following in the wake of the boom inaugurated by the discovery of natural gas, have not only added greatly to the comforts as well as to the material prosperity of our citizens, but have no doubt had some share in increasing the healthfulness of the people by lessening their hardships and enabling them to secure better food and clothing.

The general sanitary condition of the county, including Marion and the several smaller towns, has been, I think, exceptionally good. The local health officer and the other municipal officers of this city, have worked together in harmony, and as a result the streets and alleys have been kept in at least a fairly clean and healthful condition, while an unusually close vigilance has been maintained over all diseases of a contagious or infectious character. There has, however, been no epidemic, strictly speaking, in this locality during the past year. There have been, it is true, about forty or fifty cases of diphtheria in the county during that period; but for the most part these occurred sporadically in different parts of the city and country, and in many cases in sparsely settled neighborhoods, where there had been little or no intercourse between the people, no exposure, and no apparent source of either contagion or infection. These cases have, almost without exception, been promptly quarantined, and so far as I am aware there has not been a single instance of the disease spreading by direct contagion, except where two or more cases have occurred in families where complete isolation seemed impossible.

Several mild cases of scarlet fever have been reported; a few of them occurring in the rural districts; but the usual precautions have generally been enforced, and the disease thus kept under control.

One case of varioloid occurred in this city during the year, but strict quarantine was early established and no other case followed.

About the usual number of cases of typhoid fever were reported during the year.

Measles prevailed pretty generally throughout the county during the winter months, but only a small proportion of the cases were reported to the health officers.

A large number of elegant new brick school-houses have been built in the county within the past year or two, notably two in this city; one a high-school building costing about \$60,000, the other a fine brick ward school costing over \$10,000. These buildings were, generally speaking, constructed and equipped in accordance with the teachings of modern architecture and sanitary science. There is, however, still room for improvement in the interior arrangement and external surroundings of many of the school-houses of this county.

A factor contributing in no small degree to improve the sanitary condition of this city was the completion last summer of a modern crematory, where the bodies of all animals dying within the city limits, from either accident or disease, are promptly and completely consumed.

Our county infirmary and orphans' home are both magnificent new buildings, with all modern improvements and conveniences, and are in excellent sanitary condition.

A number of the physicians of this county report fully and tolerably promptly; but many others either fail to report at all, or do so only occasionally.

Respectfully,

A. A. HAMILTON,
Secretary Grant County Board of Health.

GREENE COUNTY.

C. N. Metcalf, M. D.:

I have the honor to report as follows: The sanitary condition of our county is generally good. We have been free from epidemics this year. The physicians and nurses are gradually improving in the matter of reporting births and deaths, as they understand better the importance of that duty. There has been three cases of diphtheria reported since my quarterly report. The first case was brought from Indianapolis and died in a few hours. There has been no spreading of the disease from either of the families where it has occurred.

All the public buildings of the county including school houses, poor asylum, jail and court house are in excellent sanitary condition. It is due to the poor asylum to say that it is a model of neatness and order.

Respectfully,

THOMAS WHEELER, M. D.,
Secretary Greene County Board of Health.

HARRISON COUNTY.

Dr. C. N. Metcalf, Indianapolis, Ind.:

DEAR DOCTOR—The sanitary condition of this, Harrison, county is most excellent. The poor asylum is now in better sanitary condition than ever before, and our jail has been quite pleasant and healthy since the improved sanitary arrangements were completed last year. I hear of no complaints within the county in regard to school houses.

Scarlet fever has appeared in our county at several points, during the last three months, but by strict quarantine it has been quickly checked. But two fatal cases reported. Typhoid fever has appeared in places, but the cases have been rather sporadic and mild in character. Our physicians rigidly, as a class, enforce all sanitary measures recommended by the State Board and sanitary science.

There has been less sickness in this county during the last year than for many preceding. Our county has good natural drainage, and the people are intelligent, and are rapidly becoming informed on the most common laws of sanitary health protection.

Our County Commissioners are wide awake to the needs of our county in this particular, and take a warm interest in everything looking to the protection of public health.

Our newspapers also lend their aid, and our physicians now all act in accord and unity on this great question, believing that the prevention of disease is a higher art than the cure thereof.

Yours,

W. DANIEL,
Secretary Harrison County Board of Health.

HENRY COUNTY.

C. N. Metcalf, M. D., Secretary State Board of Health:

DEAR DOCTOR—The general health of Henry County for the year ending September 30, 1891, has not been widely different from late previous years.

Henry County sanitary condition is above the average. Reports from the thirteen township trustees of this county shows the school houses, wells and out-houses of the same, to be in a good hygienic condition.

Our county asylum, two buildings, for the poor, is kept scrupulously clean from cellar to garret. The inmates, 37 at present, 23 males and 14 females, are well fed and well clothed. The health of the inmates is good and not a death has occurred in the past two years from any acute disease.

The county jail is in as good sanitary condition as the structure will permit, there being no means of ventilating the lower corridors and cells.

Scarlet fever—36 cases were reported throughout the year and 1 death. This number of cases reported probably did not cover more than half of the cases that occurred, as a number of cases were so slight as not to demand the attention of a physician, and those cases that were under the care of a physician were reported

very mild, except one family where 8 cases occurred, was reported malignant; only one death resulted. Cases of scarlet fever have all been in four townships and at no time been epidemic.

Diphtheria—6 cases reported and 2 deaths.

Typhoid fever has continued about as usual during the year, only 9 cases reported and 7 deaths, 3 of the deaths in the last quarter, and all in New Castle.

This gives an excessive mortality, it being certain that not all the cases of disease have been reported, but I account for the neglect of typhoid cases being reported, to the phrase "malignant typhoid fever" as only being required to be returned. (See blank form 7.) In a few instances a death from typhoid fever has been reported, when no previous return of the disease has been made.

Measles—31 cases reported which covered probably not over one-fourth of the cases that occurred. The disease was prevalent in the county during the first and second quarters of the year, of a mild type, and the majority of the cases were not attended by a physician.

La Grippe was epidemic during the first and second quarters of the year, and 15 deaths were reported, and deaths from other diseases were reported, superinduced by an attack of the "grippe."

Consumption claimed 32 victims. Consumption caused over 60 per cent. more deaths than all the dangerous diseases combined.

No cases of small pox or cholera.

The laity has become educated to the rules and regulations of the State Board of Health in regard to diseases dangerous to the public health, which greatly assist in preventing the spread of disease, and where contagious disease occurs by isolation and disinfection the disease has been stopped without spreading further, the attending physician coöperating in the matter.

A. C. BARTLETT, M. D.,
Henry County Health Officer.

HOWARD COUNTY.

C. N. Metcalf, M. D., Secretary State Board of Health:

DEAR SIR—In answer to your circular letter concerning the health and sanitary condition of this, Howard County, for the past year, would say that it is and has been good. There have been a few cases each of typhoid and scarlet fever, but not as an epidemic. The sanitary condition of Howard County's public buildings is first-class.

Prompt means were enforced to prevent the spread of epidemic diseases.

Yours truly,

R. H. SMITH,
Secretary of County Board of Health.

JACKSON COUNTY.

DEAR DOCTOR—Sanitarily speaking, Jackson County stands as one of the foremost of the State. She has had no epidemics during the year, except last winter and spring, at which time "La Grippe" raged, attacking the rich as well as the poor. No class nor neighborhood seemed to be exempt from it. Few deaths were reported to this malady, and, with all, the mortality was light.

Scarlatina has been of an infinitesimal and idiopathic character; a few cases have been reported, and they of different neighborhoods, these not so much dreaded as if epidemic over her entire area, and see the flag of "danger" dotting the homes of the otherwise happy families.

The people of the once low, "slashy" and miasmatic bottoms of White River have awakened to the realization of the importance of ditching their lands, cleansing the surface and avoiding the deadly disease, "malaria," which once ruled supreme and undisturbed, now almost extinct. Our water supply is first-class.

As to her benevolent and penal institutions, I can but say the best, thanking, in behalf of the people, the overseers of the same, as they have used their utmost endeavors to hold them in the place they have always ranked—one of the best, and am glad to say they have succeeded, in a sanitary point of view.

To the collection of the vital statistics I have used due diligence, placing before the public the use of the one great happiness, *good health*, that it is not the thing to consider the getting of the health first, but of retaining it after we have it is of far greater importance. In lieu of such considerations I think I have obtained nearly all reports.

For the year ending September 30, 1891, there have been solemnized 216 marriages, reported 506 births, and 176 deaths.

The predominance of births over deaths being so great, can show nothing but the healthfulness of our county, as it does not reach your calculations on the mortality ratio.

To all of this we can attribute the judgement of our people.

Respectfully submitted,

D. J. CUMMINGS, M. D.,
Secretary Jackson County Board of Health

JASPER COUNTY.

U. N. Metcalf, M. D., Sec'y Indiana State Board of Health, Indianapolis, Ind.:

DEAR DOCTOR—The sanitary condition of Jasper County is not only good, it is excellent. Though we have had four (4) deaths from scarlatina since October 31, 1890.

There has been an epidemic of a very mild form of rash prevailing in the schools throughout the county. It is not scarlatina, for in no instance has there been any desquamation or resulting nephritis. The physicians here think it is Rötheln.

There is still some difficulty in getting reports from physicians, especially in regard to deaths. They all seem perfectly willing to report births.

The sanitary condition of our county asylum and county jail remains unchanged, or, as I reported a year ago, it is excellent.

Very truly yours,

VICTOR E. LAUGHRIDGE, M. D.,
Secretary Jasper County Board of Health.

JAY COUNTY.

C. N. Metcalf, M. D., Indianapolis, Ind.

At your request I submit the following report from this county:

There has been a few cases of typhoid fever in this county. Diphtheria nine cases; scarlet fever, seventeen cases. The scarlet fever broke out in a village eight miles north of this city. Some visitors came to the village from the northern part of the State. One child of the visitors took sick after arrival, and when the rash began to appear, it was supposed to be urticaria. Too many children visited the sick child, and when my attention was called to the place, I took flags and went with the attending physicians and tried our best to quarantine, which proved to be effectual.

The typhoid cases are all isolated. Our county prison is in as good condition as can be expected, a part of the time it has been overcrowded. Our sheriff is a hustler for boarders. There are five good lusty fellows in at present, who care but little about ventilation and sanitation. The city cooler is a daisy, indeed, clean, well ventilated and warm; but the county infirmary is a poor thing. Two story wooden structure, low ceiling and not a sign of ventilation, only doors and windows and some of them are closed tight. No transoms in the building. The bedding is good and sufficient, clean and no bugs to pester the unfortunates. No smelling-salts required there. Everything is clean as can be in such a house. The Matron is an exception—the right woman in the right place. There are twenty-nine inmates, sixteen males and thirteen females, and I will class them as follows: Epileptic, one; Idiotic, one; Feeble-minded, fifteen; Insane, none; married, six, males, two, females, four. The remainder are old and infirm, except three or four children.

The school property in the city and county at large will compare with the best in the State. The log cabin school-house has left this county. The white frame, and the brick structures with the latest fad in ventilation and blackboards has come instead. No more log cabins in the woods, but modern architecture on the hillsides, with the bright little hoosier in the back ground, is a thing of beauty and a joy forever.

H. V. BROWN, M. D.,
Secretary County Board of Health.

JEFFERSON COUNTY.

C. N. Metcalf, M. D.:

DEAR DOCTOR—Your circular letter of October 21st, was received. During the past winter we suffered considerably from the la grippe, and a few deaths were reported from causes originating in it. In others, a condition of invalidism remains that dates to an attack of it. Only an occasional case of typhoid fever has been reported. During the latter half of the year, diphtheria and scarlet fever have both been with us, and are yet.

They have not assumed the importance of an epidemic but no considerable part of the county has escaped. The scarlet fever has been of a mild type, but few deaths resulting. Often, I doubt not, cases have escaped detection, and in that manner have contributed to the spread of the disease. Not so with diphtheria; it has been more malignant in type, and a number of deaths from it have been reported.

Reports of these diseases in the city of Madison, and by a few physicians outside the city, have usually been made promptly, but others have neglected their duty, if they had any cases.

Isolation has been insisted upon in all cases. By personal solicitation and letters, I have endeavored to get complete reports from our physicians, but have been only partially successful and in some cases where they are made, it is grudgingly.

The poor asylum is kept in first-class condition. It would be difficult to say too much in praise of the superintendent and his good wife (and especially the good wife) who have been in charge for a number of years. The health of the inmates has been, and is good, for that class, but great complaint has been made of the physician for inattention when he was called.

The school houses of the county are usually in fair sanitary condition, quite up to the average.

The jail is in as good condition as it is possible to put it, it being evidently constructed more with a view to the safety than health of the inmates.

Now a word about death reports, and the best methods of collecting them. As far as I am able to comprehend the situation, the best method would be to amend the present law as to make it the duty of the township trustee of each township to issue a burial permit for each death in his township, making it the duty of the family or friends of the deceased to notify him.

In cities and incorporated towns, make it the duty of the clerk to issue such permit, and impose a penalty for any undertaker or sexton to bury any corpse until such permit is in his hands. At the close of each month, such trustee or clerk to make a report to the County Board of Health, and it to the State Board as now.

The advantages of this method over the present is, it is made the duty of the sworn officers of law, instead of being left with the physician who too often, whether on account of press of business or willful neglect fail to do it, beside it is more local in its operation, and enables the officers to have a fairly good view of his entire field, and know if violations occur.

WM. A. McCoy,
Secretary.

KNOX COUNTY.

C. N. Metcalf, Secretary State Board of Health :

DEAR DOCTOR—In reply to your inquiry as to the sanitary condition of Knox County for the year ending October 31st, 1891, I must say that it is good. We have had some cases of diphtheria, typhoid fever, scarlet fever, measles and whooping cough to a very limited extent, and most of the attacks have been very mild, where there was proper notice given to the Health Officers the cases were properly quarantined, and the spread of the disease checked or confined to that particular locality. Our County Asylum and Jail are both in a very fair sanitary condition. The physicians are reporting their cases more fully than heretofore, yet there still remains a few that do not report. Respectfully submitted.

J. A. SWARTZEL,
Secretary Knox County Board of Health.

LAGRANGE COUNTY.

C. N. Metcalf, M. D., Secretary State Board of Health :

During the year 1891, in this county, 237 persons died, of whom 126 were males and 111 females. This shows a mortality rate of about sixteen to each thousand of population. There were born during the year 203 male children and 168 female, 371 in all, twenty-nine of this total being reported as still-born. Twins were born in three cases, four females and two males. There were six births out of wedlock. The youngest mother was fifteen, the oldest forty-eight; the youngest father nineteen, the oldest sixty-seven. The first-born number about one-third of all, while the largest family of children to which another was added during the year shows eighteen in all. The birth rate is about twenty-four in each thousand. Statistics carefully compiled in various countries and cities show, as a rule, a rather larger rate of both births and deaths than as shown herewith. But we have not the density, nor the large foreign element found in the cities, neither is this an era of large families, usually, among the classes of which our people is largely composed. A high birth rate means a greater death rate, as nearly one-fourth of all children born die under one year of age.

The deaths from a known cause were mainly as follows: Cancer (three types) 12; consumption, 23; pneumonia, 13; heart disease and failure, 21; paralysis, 9; apoplexy, 10; peritonitis, 7; gangrene, 4; diabetes, 3; albumenuria, 4; typhoid, 6; dysentery, 3; cholera morbus, 3; cholera infantum, 7; puerperal, 5; abscess, 3; scarlet fever, 4; measles, 5; diphtheria, 3; whooping cough, 4; brain fever, 3; la grippe, 19. Several other causes were given in which there were one or two deaths each. Senility, or old age only, was attributed in a few cases, and "inanition," or lack of vitality, was assigned in a number of cases, mostly infants.

By grouped ages we find deaths occurred as follows: Under one year, 58; one to ten, 31; ten to twenty, 11; twenty to thirty, 15; thirty to forty, 17; forty to fifty, 16; fifty to sixty, 21; sixty to seventy, 26; seventy to eighty, 27; eighty

ninety, 13; ninety and upward, 2; the oldest reported at 94. That nearly one-fourth of all reached the three-score and ten limit speaks well for the vitality of the old settlers.

The following table shows the births and deaths by townships and the town of LaGrange, the per cent. to each 1,000 of population given in the nearest whole number, and based on the census of 1890:

	<i>Births.</i>	<i>Per Cent.</i>	<i>Deaths.</i>	<i>Per Cent.</i>
Bloomfield	21	18	17	14
Clay	32	25	22	17
Clearspring	39	25	26	18
Eden	29	24	21	19
Greenfield	22	21	17	16
Johnson	42	29	25	17
Lima	25	19	17	13
Milford	29	24	16	13
Newbury	53	37	28	20
Springfield	26	25	15	14
Van Buren	25	23	18	17
LaGrange	28	15	15	8

The birth rate of LaGrange is much less than in other parts of the county, and a larger proportion of the inhabitants are of the young adult and middle age, thus escaping the mortality shown where the two extremes, infancy and old age, are greater. This doubtless explains the marked difference in the death rate. The figures for the town are known to be correct, while those outside are approximately so. Any error corrected would show more rather than less.

During the year there were 137 marriages, more than ninety per cent. being the first, while several tried the matrimonial sea the second time, and a very few still oftener. The youngest bride was 16, the oldest 72; the youngest groom was 19, the oldest 71.

The county suffered an invasion of measles during the first of the year. Before any report was made the disease had spread to such an extent that little could be done to check it. The cases ran into the hundreds, and five deaths resulted. There were fourteen cases of true diphtheria, with three deaths therefrom. This disease was endemic. In all 52 cases of scarlet fever were reported, with perhaps a dozen others probable. Four deaths occurred from this malady. The origin in most cases could not be determined. Whooping cough has also annoyed by its presence, mostly at Ontario, where three deaths were caused by it. Three schools were closed temporarily during the year because of these diseases. There were upwards of sixty cases of typhoid fever, and six deaths followed it. The town of LaGrange was fortunate in having no deaths from any of these diseases, and it is gratifying to know that the per cent. of mortality from them throughout the county was much lower than is shown in any other parts of the State.

No intelligent person doubts the value of sanitation and isolation in these diseases, and I know of no case in which the physicians have not done all the conditions permitted to prevent the spread of them. The public, too, in nearly all instances is watchful and glad to assist.

A word might be said of "nuisances," for complaints have been numerous. Investigation proved some to exist only in the disturbed mental state of complaint. Some were real, and were entirely or partially abated.

The sanitary condition of the jail is good and several of the "temporary boarders" have informed me that the sheriff is a first-class landlord. The county infirmary is also in excellent condition, and many an unfortunate sees far better times there than when struggling outside. The heating and ventilation of our high school building is not of the best, but some improvement has been made through a new furnace put in during the past year. No complaint has been made from the other towns of the county which imply any defect in the sanitary conditions of their schools. The district schools are still getting along with the usual primitive methods of heating and ventilating. However, the drinking water is good in nearly all cases, and the out-houses fairly so. The seats and blackboards in the new houses, as well as the greater number of the older ones, are of the latest and most comfortable designs.

Printed copies of such sections of the law as relate to nuisances have been generally distributed and posted up, and posters of heavy paper containing the rules applying in dangerous diseases have been furnished every school.

Whenever information was had of a birth or death not reported by a physician, notice was sent the family and a report required. There was at first some opposition, but firmness and a printed slip showing the penalty for refusal has produced the desired result. No prosecution was made, though in two or three instances I had the prosecutor write the obstreperous parties. My belief is that imperfect statistics are worse than none, and no proper means were left unused to accomplish the end and to secure a practically perfect record for this county.

The county and town of LaGrange have always appointed the same person to act as secretary during a given period, and the salary for both was one hundred and fifty dollars the last year. In addition an allowance was made for printing, stationery, postage, etc., of about fifty dollars more. The compensation is meager to one who does his duty, but it will be a little better this year.

The people are getting more in sympathy with the letter as well as spirit of the law. The administration of the office is becoming more satisfactory in this county and is, also, not without its compensation aside from the official allowance. I am satisfied that faithful and energetic work in these matters will meet with the same result as in other pursuits, at least from the better and more intelligent classes

D. W. DRYER,
Secretary.

LAKE COUNTY.

Dr. C. N. Metcalf:

DEAR DOCTOR—I have the pleasure of submitting my yearly report as Secretary of the Lake County Board of Health for the year ending September 30, 1891. Lake County has never been in a better sanitary condition. There has been no serious epidemic this year. There have been a few sporadic cases of diphtheria, scarlatina, rubeola, and typhoid fever reported from different parts of the county, but no general epidemic has prevailed, and the mortality has been light. Physicians have taken an interest in preventing the spread of contagious and infectious diseases, and have been prompt in reporting all cases, with few exceptions, and I am sure those two or three physicians who have neglected to report cases promptly will recognize the necessity of doing so in the future (that is, of reporting according to law, and not as may suit their convenience, or not at all.)

Within the year sanitary inspection has been made of the county asylum, of the county jail and some of the school houses. The county asylum is in good condition. I have suggested to the Board of Commissioners that the asylum be heated by steam instead of wood and coal stoves, as it is at present. The location is good, the grounds are well drained, the yard is large and well kept, the buildings are in good repair and well ventilated, the rooms are large and clean, the beds are clean and free from vermin. The water supply is abundant, pure and safe from pollution. The cellars are large and clean. The water closets are soon to be improved, although already in fairly good condition. There were, at time of last inspection, nineteen inmates. Twelve males and seven females. All of the males who are able to work, assist the overseer in the care of the stock and farm, and the females help do the work in the asylum. The inmates are kept separate except at meal time; are obliged to keep clean, and the best of order is maintained. There were several sick at time of last inspection, one with chronic rheumatism, which had produced anchylosis of many of the articulations; one with persistent cephalalgia, and two or three with minor ailments. Two were insane and were kept in confinement. No deaths have been reported during the past year.

The county jail is commodious, constructed of brick, and is supplied with steel cells and cell-room; it is well lighted, ventilation being by opening the windows at the top. The water-closets are connected with an open well, and is not only a source of contamination for all wells within a block of the jail, but causes a very offensive odor in the jail.

There were confined in the jail during the year prisoners as follows:

Oct. 1890, Males	9
Nov. " Males	14
Dec. " Males	27
Jan. 1891, Males	30
Feb. " Males	44
Mar. " Males	56
Apr. " Males	48
Apr. " Females	1
May " Males	32
June " Males	20
June " Females	4
July " Males	38
Aug. " Males	32
Sept. " Males	24

The prisoners have the use of a bath room, clean beds, and plenty of good, wholesome food.

The court house is supplied with dry earth-closets, which are very offensive. Both jail and court house are lighted by electricity. The school houses examined were all well warmed and ventilated, and supplied with good water.

Respectfully submitted,

G. D. BRANNON, M. D.,
Secretary Lake County Board of Health.

LAPORTE.

C. N. Metcalf, M. D.

DEAR SIR—The sanitary condition of this county is very good, with the exception of one locality.

The deaths for the county excluding still births appears to be 10.9 per thousand. Six hundred and fifty-two, more than half the population of the county are comprised in Michigan City and La Porte City, in which places burial permits are required by law, and where the reports of all deaths are supposed to be obtained.

Strenuous efforts are continued without abatement, to secure these reports, and they are believed to be successful in these cities. In Johnson Township on the south side of the Kankakee river, and some other remote parts of the county, I can not say that all deaths are reported, but what human ingenuity and perseverance can do to accomplish the desired end, is being done.

A few reports are probably sent to South Bend by physicians residing in St. Joseph County, I believe, since now and then I receive one from that county.

There has been no epidemic outside of Michigan City, and only a chronic threatening there, during the year ending October 31. In Michigan City scarlet fever and diphtheria are rarely absent for any considerable length of time. The peculiar toxic microbes to which these diseases are confessedly due, appear to have found a permanent abiding place and feeding ground there, maintaining a foot-hold in defiance of all measures resorted to for their abolition from the locality.

The sewage of the city finds its way into the harbor, forming a vast culture field for these organisms which are scattered broadcast throughout the city, through the water mains, service pipe, street and lawn sprinkling, etc., hence, we are not surprised that no degree of precaution can stamp out these diseases for any considerable length of time.

So long as the present water supply and use are continued, nothing better can be reasonably anticipated and those who understand and appreciate the dangers, ever present from this source, fear a dreadful epidemic. Public interest in the subject of sanitation and knowledge of preventive measures in the outside townships is widespread, and intelligent, and speaks for itself in the vastly improved conditions at present.

Several times during the year I have been called to remote parts of the county on account of sporadic cases of scarlet fever, with the view, probably, of securing a prevention of its tendency to spread. Happily by ordaining the attending physicians as health officers for that particular case and locality, in neither instance, so far as known, did another case result.

A slaughter house nuisance in Wanatah was abated instantly by orders from this office.

To sum up the whole business in general and particular, my conviction is assured that the sanitary condition of the county is quite as good as could reasonably be expected under the existing circumstances.

Respectfully submitted,

R. O. CRANDALL,
Secretary County Board of Health.

C. N. Metcalf, M. D.

DEAR SIR:—In compliance with your request for report of the sanitary condition of the school houses, jail and asylum for the poor in this county, I proceed with pleasure to set forth my views and knowledge of the subject.

An intelligent community appreciating the necessity and value of preventive measures, by reason of repeated successful demonstrations of their utility, has kindly co-operated with the authorities in carrying out the measures adopted.

With pleasure, I repeat, because of the evident improvement in sanitation all along the line, i. e., diminished number of epidemics of contagious and infectious diseases, and reduction of the death rate in many localities, tending to promote the well being and happiness of the community and also gratifying an ancient personal sentiment which still abides with me.

Many of our citizens avail themselves of the privilege of visiting the county asylum, attracted undoubtedly by the elevated, breezy situation, the beauty of the surroundings, the uniform urbanity of the Superintendent and his wife, and the admirable management and cleanliness without and within. I entered the place, unannounced, at an open outside cellar door, from which issued the sound of voices. The three inmates were engaged in removing green cucumbers and tomatoes from the salt brine in which they had been many weeks.

I examined the milk room, the meat room, fruit room, vegetable room, general store-room, and others, all in the cellar; found them all clean and sweet, and a fine brisk circulation of air from the outside rushing through the rooms, and detected nothing unsanitary in this part of the premises.

I then visited and examined the sitting rooms, sleeping rooms, wash rooms and closets, dining room, kitchen, cells, halls and external surroundings, privies, water supply, etc., resulting in my unqualified approval of the cleanly appearance and nearly perfect sanitary condition, as a whole. The number of inmates was forty-two. Insane, six; feeble-minded, ten; blind, four; children under twelve, four. The county jail, as usual, is managed as well, apparently, as possible. The halls and audience rooms are washed and scrubbed three times each week, as also the cells when occupied. The privy and water-closets are constantly deluged with water from the hydrant, and disinfected daily. Every attention constantly devoted to the maintenance of as perfect a sanitary condition as possible. In this state I found it. Inmates, eleven. The food furnished the prisoners is substantial and wholesome.

The school houses in the country districts, as a rule, are admirably located upon elevated situations. The privies placed upon the lowest and most remote parts of the lots, and the water supply from driven wells. Where they exist secured from the greatest practicable distance from the privies and so placed that the underground current of water shall flow from the wells toward the privies. In Center Township every school house is provided with one of these wells, all ranging from eighty-five to one hundred feet in depth, and the supply of water is abundant and believed to be pure. In no other township are the school houses so well provided for, but orders have been issued for a like supply of this indispensable luxury. But few wells will be put in this year because there are no funds on hand for this purpose. The next tax levy, however, will anticipate and provide the requisite funds. Ventilation has been provided for, in a way, by lowering the upper sash in the windows, through weights and pulleys thereunto attached.

I believe no school in the county has been interrupted in its sessions by epidemic or any other form of disease.

As a whole I regard the school houses in this county as being in a very good sanitary condition, while the interest manifested by those personally interested in the subject, and the pledges voluntarily offered are full of promise of great improvement in the near future.

Respectfully submitted,

R. O. CRANDALL,
Secretary County Board of Health.

MARTIN COUNTY.

C. N. Metcalf, M. D.:

Your favor relative to the sanitary conditions of Martin County for the year ending September 30, 1891, was duly received. In reply will say that the sanitary condition of the county is very good. We have had no small pox or diphtheria. Typhoid fever, six deaths; cerebro spinal meningitis, four deaths. There has been an epidemic of whooping cough the past summer in this county, but no deaths have been reported. La grippe prevailed here as elsewhere with the usual severity, and left its sequels with many persons that may prove fatal when complicated with diseases that may arise in the future as has been observed in the past.

The sanitary condition of our public buildings including school houses, county asylum and jail is good.

Very respectfully,

M. M. DOOLEY,
Secretary.

MARSHALL COUNTY.

C. N. Metcalf, M. D., Indianapolis, Ind.:

DEAR DOCTOR—My report on the sanitary condition of Marshall County during the last year has been a little delayed for the reason that I desired to investigate and inform myself on some points that an intelligent report may be given.

Our County Commissioners were in special session last week for the consideration of making sale of the poor asylum at Tyner City, seven miles north of this city on the L. E. & W. R. R. I learned of them that this farm of 160 acres (which is very poor land) will be offered for sale on December 12, 1891, and that they had purchased 195 acres east of Plymouth, about one and one-half mile from the corporation line, of as beautiful and rich land as can be found in Marshall County. On this recently purchased farm there will be erected during the next season a poor asylum at a cost of \$18,000 to \$20,000, built after the modern style of architecture for health and comfort. The frame building at Tyner City is very old and in its state of decomposition it is impossible to keep it in good sanitary condition.

A few cases of diphtheria have been reported from near the south border of our county, supposed to have found its way from an epidemic then existing in Fulton County. The physicians in attendance used all precautions by isolating the patients and the disease soon ended. Scarlet fever in a mild form has prevailed quite extensively during the last year, some requiring none or but little treatment. The so-called typho-malarial fever commenced in July, 1891, and many cases still linger, but recovery is the rule.

Our country school houses are warm and comfortable and are mostly ventilated through the windows, usually at the top. Everything is kept neat and clean and the surroundings in good sanitary condition.

The jail is scrubbed once or twice a week and the water-closets flushed with water from the water-works. The water-closets at the court house are treated in the same way.

It is needless to say that our school buildings at Plymouth, Argos, Bourbon and Bremen are models of perfection for health and comfort. The poor asylum is under the supervision of a man who understands sanitary laws and is doing all he can with his extensive experience to make the old dilapidated building as healthy as it is possible, looking forward to a time within the coming year when sanitary laws can be practiced to perfection in the new home for the unfortunate inmates.

Respectfully yours,

J. H. WILSON.

MIAMI COUNTY.

C. N. Metcalf, M. D.:

In response to your letter of inquiry in regard to the general sanitary condition of Miami County I have this to report. The year 1891 has been the most healthful ever known to the citizens of Peru and vicinity. The winter of 1889 and 1890 we were visited by la grippe, and an immense number of people were attacked by it. There were many deaths of persons decrepit with age or chronic disease. Persons of good constitution all recovered. The effect of the epidemic lasted about fifteen months, but very few were attacked after the first four months. Mercurial cathartics followed by acetanilid is the most successful treatment for la grippe.

We have had quite a scourge of diphtheria and scarlatina for the last two and a half years; there having been but few cases the present year. I suppose there has been two hundred cases of diphtheria and scarlatina in this county in the last three years, with many deaths. After much experience I have come to the conclusion that muriatic tincture of iron is the anchor in diphtheria and scarlatina. Hyosciamus is an excellent remedy in scarlatina. I condemn no remedy, but the two mentioned have made the most favorable impression upon my mind.

Our county jail is an immense stone structure forming the basement of our court house. It is heated by natural gas, and hence all dampness is prevented. The sanitary condition of our jail is good.

Our county poor house is a large brick building of modern style, and has all the conveniences of a city hospital; hot water and steam heaters, with excellent bathing rooms. It is first-class in every particular.

In this city we have three very large school buildings with all modern improvements. They are heated by natural gas.

The city of Peru has splendid streets, well graveled, and good sewerage all over the city.

The old Wabash and Erie canal passes through the city at the south side, and has been abandoned for purposes of navigation. It has become a source of great danger to the public health and ought to be filled up.

Our country school houses are nearly all of brick and well arranged. We have very few frame school houses. The sanitary condition of our country school system is excellent.

There has been a few cases of typhoid fever in the county, but that disease is not of frequent occurrence.

We have had a few cases of whooping cough and measles, but they were mainly of a mild form.

Respectfully, etc.,

H. V. PASSAGE, M. D., A. M.

MONTGOMERY COUNTY.

Dr. C. N. Metcalf, Indianapolis, Ind.:

In reporting the health of Montgomery County for 1891, now nearing its close, I may say that we have had less sickness than usual during the first nine months of this year. For the past two months we have had quite a considerable number of cases of scarlatina and measles in a mild form, but we are having a number of cases now, and have for the past six weeks, of diphtheria, and so far about fifteen deaths, which have been scattered over the county and not inclined to be epidemic in any locality. In a school two miles east of this city, we had five deaths in quick succession, but by closing the school and strict quarantine we succeeded in stamping out the disease in that locality.

At Linden, ten miles north, there were three deaths in one family. Their school has been, and is still closed, and no new cases for three weeks, so we believe we have the disease under control there also. We have closed one school in Crawfordsville in the central building on account of a mild case of diphtheria in the Janitor's family. That is the trouble of having the Janitor live in the school building. It causes unnecessary closing of school, when if the Janitor lived outside, a temporary Janitor could be employed so as not to interfere with the school. So far we have had but one death from diphtheria in Crawfordsville, and that was complicated with croup. I might add in this connection at this time, that we are having a mild epidemic of diphtheria and scarlatina.

Typhoid fever has prevailed less the past year than usual, being altogether sporadic. Our county asylum is in good condition and the inmates are in a healthy condition and well cared for. The sanitary condition of the jail and school houses are in excellent condition.

In closing up this subject I would recommend that no Janitor be allowed to live in any of our public schools or colleges, as the sickness of one member of his family of any contagious disease necessitates the closing of the school which is evidently unnecessary if he lived outside.

Now, in regard to the neglect of physicians making reports, I would suggest that a suitable blank be sent to every undertaker in the State, to be filled out each quarter and returned to the county health officer, giving the name of each person interred by him, the place of interment with date of same, and last, but not least, the physician last in attendance. In this way we would get a duplicate report and be able to reach physicians who neglect to report deaths purposely or otherwise. I find that our undertakers are quite willing to make such reports if they were furnished suitable blanks to do so.

Respectfully yours,

E. W. KEEGAN, M. D.,

Secretary County Board.

MORGAN COUNTY.

C. N. Metcalf, M. D., Secretary State Board of Health :

DEAR SIR—At the request of the State Board I send you a report of the sanitary condition of Morgan County.

The County Asylum is a fine, large brick building, one mile east of the city of Martinsville. It is well ventilated, and heated with a furnace. It is kept very clean, and is always in a good sanitary condition. The health of the inmates has been excellent. There has not been a case of infectious or contagious disease in the house for over five years. The Orphan's Home is in the same building, the front part of the house being set apart for that purpose. Up to September, 1891, the health of the children has been good, there being but two deaths in six years. In the latter month three children were admitted in bad condition. In a short time all three were attacked with diphtheria, and although every effort was used to prevent it, nine children in all suffered from the disease, with one death. They had good care when sick. Each child had a large, well ventilated room, and every precaution was taken to prevent the spread of the disease to the other part of the building, where a number of small children lived.

Our jail is a new structure just finished a year ago, at a cost of \$35,000. It has all of the modern improvements for ventilation, heating and in all sanitary matters.

The health of the county has not been good, as several epidemics of typhoid fever have been reported in several parts of the county, due to the dry weather which had made the water supply bad. In the city of Martinsville and vicinity there have been forty cases of diphtheria with a mortality of forty per cent. The Board of Health took every precaution to stamp it out. The city was thoroughly inspected a number of times, and dirt and filth of all kinds were cleaned away, and a large number of pig pens and privy vaults were put in good sanitary condition. The drainage of the city has been much improved by the city officers. In every case reported to the health officer every precaution has been taken as recommended by your board. Respectfully submitted,

C. A. KESSINGER,
Secretary.

OHIO COUNTY.

C. N. Metcalf:

DEAR DOCTOR—In reply to yours asking me to report to you the sanitary condition of Ohio County, will say that the health of this county in the last year has been unusually good. There have been a few cases of typhoid fever, diphtheria, measles and scarlet fever, but at no point have any of these diseases been allowed to spread and only two or three of these cases proving fatal. The County Asylum is located four miles out in the country on a high hill, and is well cared for, everything about the premises being in a good sanitary condition. The structure is a frame consisting of twenty-eight rooms, with at present only six inmates.

The jail is located in Rising Sun, and is well cared for. The sanitary condition of our public school buildings and their surroundings are good, and no cause of complaint.

Respectfully,

GEORGE A. STEVENSON, M. D.,
Secretary Ohio County Board of Health.

OWEN COUNTY.

C. N. Metcalf, M. D.:

The sanitary condition of Owen County is fairly good, and I have but little to add to my report of last year upon that subject.

There have been but few deaths from contagious or infectious diseases during the year ending October 31, 1891.

There were reported during the year five deaths from typhoid fever, and six from La Grippe. There were fifteen cases of diphtheria, with four deaths reported to have occurred during the year. Five of these cases and two of the deaths occurred in the same family. In no other family were there more than two persons affected, nor more than one death, although in every family in which the disease occurred, the number of children in the family exposed to the disease was from five to seven, besides those exposed from neighboring families before the disease was suspected of being contagious.

In none of the cases of typhoid fever was there more than one death occurred in the same family, nor was there more than one person affected in the same family at the same time, whilst with La Grippe three-fourths of the population were affected during the months of November and December, 1890, whole families being stricken down simultaneously. No other disease except this one (La Grippe) has prevailed in any section of the county during the year as an epidemic. I attribute these desirable results to the intelligent and persistent efforts of the physicians of the county, and the cheerful co-operation of the heads of families, in stamping out these contagious diseases, whenever and wherever they have made their appearance.

The sanitary condition of the public buildings of the county has been good. The asylum for the poor is a comparatively new brick structure, well located upon a high piece of well drained ground, with a well cultivated farm of 398 acres attached. It has sufficient capacity to furnish a comfortable home to all the unfortunate poor of the county who are willing to avail themselves of its advantages. Its superintendent is employed upon a salary, regardless of the number of inmates, of which there is an average of about twenty-seven, exclusive of the superintendent's family and the hired help about the house and upon the farm. The health of the inmates has been good during the last year. There are no insane persons among the inmates, and but one idiot and one blind.

The county jail is attached to the Sheriff's residence. It is fairly well ventilated and warmed, but with an insufficient water supply, and with no arrangement whatever for privacy between the sexes, provided the jail should be crowded. It is fitted with four cells made of wrought-steel bars, and has a capacity for sixteen prisoners, and is considered secure.

W. V. WILES,
Health Officer, Owen County.

POSEY COUNTY.

C. N. Metcalf, M. D., State Health Officer:

DEAR DOCTOR—The sanitary condition of this county is only fair. It is very difficult to enforce the rules of the State Board of Health, except in a very limited way. The sanitary surroundings of the public buildings, court house, jail and poor infirmary are first-class in every particular; steam heating is now being added.

to the court house. There have occurred within the county during the last year 56 cases of scarlatina, 47 cases of typhoid fever, 12 cases of diphtheria, 5 cases of measles and 3 of cerebro-spinal meningitis. From a sanitary standpoint the majority were badly managed. In trying to enforce reports of births, deaths, contagious diseases, etc., and all sanitation, one meets with but little help or sympathy from the public officials and people at large.

Yours respectfully,

D. C. RAMSEY, M. D.,
County Health Officer.

PERRY COUNTY.

C. N. Metcalf, Secretary State Board of Health:

DEAR DOCTOR—In response to your inquiry relating to the general condition of the health, etc., of Perry County for the year ending September 30, 1891, would state that the general condition of the health of our people has never been better. We have been particularly free from all epidemics. No outbreak of any contagious or infectious disease has been reported at this office. Malarial troubles have been less numerous than in preceding years; probably in part due to the fact that the Ohio river has been confined to its banks for the last year. Our county poor house is in a better sanitary condition than heretofore, and no death has been reported from them during the last year.

The number of paupers has decreased fully 33½ per cent. We are now without any jail, as the old one has been torn down and a magnificent modern jail is now building, and will be ready for occupancy in a few weeks. The new jail will be a credit to our county, while the old one was a disgrace to humanity and had, because of its foul condition and insecurity, been condemned by every Grand Jury and Secretary County Board of Health for years. We have had but little trouble in getting in reports, but still all have not been reported as should have been. I have stamped and addressed envelopes sent to each doctor and mid-wife in the county, and by so doing I overcome the objection some doctors had of paying postage for reports to be sent in.

Yours truly,

C. W. LADD, M. D.,
Health Officer, Perry County, Ind.

PORTER COUNTY.

C. N. Metcalf, M. D., Indianapolis, Ind.:

In response to your circular letter can say that I have little to add to my report of last year. We have had no epidemics except that of la grippe, which affected a number of the inhabitants the latter part of last winter and the earlier part of the spring. Very few died from la grippe as an immediate cause and in all probability none.

We have had a few cases of typhoid fever, diphtheria and scarlet fever, but they were all sporadic cases, as in not a single instance did a number of any one of

these diseases occur in any one locality. The cases were mild and readily recovered with little treatment and strict hygienic measures.

Physicians have reported fairly well, but not by any means as well as they should have done.

For non-reporting I was compelled to apply the remedy in one case and since have had no trouble in like offenses. The objection they have is that they can not see that it is any benefit to any one.

I can only say that our profession is one too noble to be disgraced by one who can not see that vital statistics is a matter indispensable. Such men are not worthy the noble name of *physician*.

I recently found two men in the county practicing medicine without license or credentials of any sort. To one of whom I mentioned the matter and he very soon brought his business to a close, but not so with the other; he was a foreigner; said this was a free country and avowed that he would do as he pleased. I sent an officer for him and he was brought into court. He plead guilty, paid his fine and costs and left for parts unknown.

The county jail is a fine stone and brick structure. The sewage pipes are good and always in order. A prison bath-tub is now being put in. The cells are large and comfortable and perfectly secure. It is well heated by steam. It is well lighted and ventilated. Not a single death has occurred for two years or more.

The county asylum is an old wooden structure not at all adequate for the purpose. A number of years ago it was erected for a shelter for the paupers and so it is yet. It is under the very best supervision, but under the existing circumstances what can be done?

The public school building in Valparaiso is a large brick structure. It is well heated, lighted and the sewers are good. The country school houses are generally good and guarded as to their sanitary condition.

The city of Valparaiso is quite free from public nuisances, but not faultless at all. An attempt was made this last year to improve the streets, walks, etc., but the failure, so far, exceeds the success. The streets and walks are worse now than at any time past for the last ten years. Yours respectfully,

W. A. JOHN, M. D.,
Health Officer, Porter County.

PULASKI COUNTY.

C. N. Metcalf, M. D., Sec. State Board of Health:

DEAR SIR—In answer to your circular, in reply will say that the sanitary condition of this county, Pulaski, for the year ending October 31, 1891, has been good. The system of drainage carried on from year to year has no doubt added materially to the health of this county. We have had no epidemics, only a few cases of contagious diseases, and only ordinary means used to control them, and keep them confined to the locality in which they originated. The physicians throughout the county have been diligent and have exercised due care to stamp out and prevent the spread of any contagious diseases under their treatment.

Winamac, the county seat, situated as it is on the Tippecanoe river, has good natural drainage, and the public buildings located here are kept in a good sanitary condition. The school houses throughout the county are in good repair, and located, as a rule, at places the most eligible and convenient for the scholars. The people are beginning to comprehend the advantages that may be derived from a local board of health, and are not slow to report promptly any infractions of the law.

Yours respectfully,

J. J. THOMAS, M. D.,
Secretary Pulaski County Board of Health.

PUTNAM COUNTY.

Dr. C. N. Metcalf, Sec. State Board of Health:

DEAR SIR—Referring to your circular as to the sanitary condition of this, Putnam, county, I have no special report to make. We have had nothing out of the usual order of things during the year. We have had less contagious and infectious diseases than usual. The sanitary condition of our county and township buildings have been good. The people now recognize that the health organization is for their protection and in most cases give their hearty co-operation.

Yours truly,

G. W. BENCE, Secretary.

RANDOLPH COUNTY.

C. N. Metcalf, M. D., Sec. State Board of Health:

DEAR DOCTOR—The sanitary condition of this county has been good during the past year. There have been no extensive epidemics during the year. We have had a number of cases of scarlet fever, 105; diphtheria, 38; whooping-cough, 41; typhoid fever, 25, and measles 12. This is taken from September 30, 1890, to September 30, 1891. The physicians of this county do not report typhoid fever unless they believe it to be of a malignant type. There have been no cases of small-pox in this county for a number of years. The physicians of this county all take an interest in making the returns promptly. The people are becoming more and more educated to the proper manner in preventing the spread of contagious and infectious diseases. There has not been a public funeral in this county where a person has died of a contagious disease within the last year.

The sanitary conditions of our school-houses are good; the houses are well ventilated and well lighted. Where the wells at the school-houses have been in bad repair and the water is suspicious, the trustees have taken all precautions to repair the wells and see that there is plenty of pure water for the pupils of the schools. In one school-district there appeared two or three cases of diphtheria, and the trustee had the teacher dismiss school for two weeks and by such a proceeding prevented a possible epidemic of the disease.

The poor asylum is in a good sanitary condition; being situated on a high and dry piece of ground, the drainage is good. The main building is heated and ventilated in the latest and most improved manner. The sleeping apartments are clean, the bedding clean and sufficient. There has been no sickness in the asylum during the last year of any importance.

The orphans' home is well kept; everything is in good sanitary condition. The bedding clean and plentiful. There has been no sickness at the home during the last year. The drainage is good and everything is done to give the little ones a good home.

The county jail is in a good sanitary condition; it is well ventilated and heated. There has been very little sickness of the prisoners, except some who were brought there when suffering from some disease, and they have rapidly recovered.

Respectfully, F. A. CHENOWETH, M. D.,
Secretary Randolph County Board of Health.

RIPLEY COUNTY.

Dr. C. N. Metcalf:

DEAR SIR—The sanitary condition of Ripley County has been good during the year ending September 30, 1891. The school-houses of this county are mostly good structures, but the means of ventilation are deficient in some of the buildings.

The county asylum is in fine condition in every way, and the new jail now about completed will be not only a fine structure in the elements of brick, stone and iron, but also in the important element of hygienic adaptations.

The returns of diseases dangerous to public health for the year include seven cases of typhoid fever, four of scarlatina, and nine cases of diphtheria.

Yours respectfully, JOHN W. ROBINSON, M. D.,
Secretary.

SWITZERLAND COUNTY.

C. N. Metcalf, M. D., Secretary, etc.:

In reply to your request of October 21, 1891, I beg to make the following report: As regards the health of the people of Switzerland County for the year ending September 30, 1891, I am glad to say it was fairly good, "as good as could be expected." The number of deaths from all causes as reported to me was 49, classified roughly as follows: Diphtheria, 5; accidental, 2; cerebral troubles, 5; paralysis, 2; consumption, 7; still-born, 2; puerperal, 3; spina bifida, 1; heart disease, 3; enteric troubles, 4; cancer, 1; typhoid fever, 1; rheumatism, 1; pneumonia, 8; senile gangrene, 1; intussusception, 2; delirium tremens, 1; inanition, 1; unknown, 1.

During the months of August and September diphtheria became epidemic in this city and in Craig Township, below Vevay, on the Ohio River, and a few of the schools were therefore closed one week. Measles also was somewhat prevalent, as was scarlatina towards the close of the year.

There is still some hesitancy with a few of our physicians to report their cases of births, deaths and especially contagious diseases. However, they are all, I believe, capable gentlemen, and promptly attend to all cases of such contagious diseases in their care. The principal means used to prevent the spread of contagion is isolation, *thorough isolation*. Disinfectants, so called, are also used, but only perfunctorily, or as a placebo to the wise (?) powers that be. It is here believed, at least by some, that the average disinfectant does more harm than good. Too much faith is placed on the efficacy of "sprinkling or immersion" of an infected garment in a certain fluid. Would you permit your child to sleep in a bed or a room, be they ever so well disinfected, in which a child had lately died of scarlet fever?

As regards our school houses, I believe, with a few exceptions, they are in good sanitary condition, barring the mode of heating. We have 45 frame, 15 stone and 17 brick school houses. Those in the country are of the ordinary character, plain in architecture, rectangular in shape. Entrance is by means of one door in the middle of front end, opening directly into the school room, without even storm doors, and I believe they all open inward, and not, as they are directed by law, outward. They are lighted by windows on either side, and ventilated by the same, either at top or bottom.

A PLEA FOR THE FURNACE.

Heating is universally by the old stove. In my opinion it would be far better financially, hygienically, artistically, morally and otherwise, to banish every stove from our school houses, and substitute the furnace for the following reasons:

1st. The stove is costly. The average school house will cost in the neighborhood of \$1,000. The stove takes up over ten per cent. of the available space, and therefore should be charged on that account with \$100 original outlay. To this should be added ten per cent. of the annual cost of repairing, etc. In some school houses the stove occupies fifteen per cent. of the total seating space, and in other larger houses, where two stoves are necessary, this per centum must of course be doubled. Per contra, the furnace occupies no seating space.

2d. The stove can not possibly maintain an equal temperature in all parts of the room. It either half roasts those unlucky victims who are seated in its near radius, or half freezes those still more unlucky ones who must remain nearer the walls. Per contra, the furnace, properly arranged, heats all parts of the room equally.

3d. The stove reverses the ideal hygienic condition of keeping the feet warm and the head cool. It is invariably one of those long-legged affairs whose elevation from the floor seems to have been expressly invented for the insane purpose of keeping the feet cold and the head hot, a veritable foot-freezer and brain-boiler. Per contra, the furnace would heat up primarily the entire floor, keeping the feet comfortable, and permitting the student's head to preserve the proper temperature. It may be impossible to keep the children's feet always warm when their play grounds are as muddy as the average country play grounds are. But we can and should have the indoor conditions favorable to them, and not unfavorable.

4th. The stove keeps the air too dry, and this irritates the delicate mucous membranes of the respiratory organs, and renders the children more susceptible to "colds" and lung troubles. I show above that diseases of respiratory organs comprise over thirty per cent., *nearly one-third* of the causes of total deaths last year.

Statistics show that nearly fifty per cent. more die in the United States of lung diseases than in England, due partly to the causes alleged above, probably. Per contra, the furnace would obviate this difficulty by heating up the whole air and exposing no super-heated iron surface to consume the children's air.

5th. The stove occupies a large portion of the attention of one of the "big boys," for of course it must be kept red hot. Should the room become uncomfortably warm, how easy to open the door or a window! This firing up is generally done in such a way as will most disturb the whole school, make the loudest clatter, raise the most dust, and possibly fill the whole room with smoke and soot to join the dried air in still further irritating the lungs and eyes of the inmates, and also the patience of the teacher. Per contra, the furnace would need but little attention, and that would be unobserved.

6th. The stove is wasteful. Part of the heat necessarily escapes from the flue, whereas the furnace would give all, or nearly all of its heat to the room. Being wholly beneath the floor its heat rises and is conserved.

7th. The stove is unsightly, unclean, inartistic, unscientific and ancient. The furnace out of sight, scientific and modern. No ashes, no cinders, no smoke, no noise, no dirt in the house.

Very truly yours,

GEO. WELBY VAN PELT, M. D.,
Secretary Switzerland County Board.

SULLIVAN COUNTY.

Dr. C. N. Metcalf, Indianapolis, Ind.:

DEAR DOCTOR—In response to your inquiry as to the sanitary condition of our county, would say we have had reported three cases of diphtheria, four or five of scarlet fever, and this fall have had some typhoid fever and a great deal of tonsillitis of a severe type. Our greatest trouble has been to contend with the remnant of la grippe. It has proven very fatal among the aged. So many of our reports come in after the secretary makes his quarterly report to the State Board that our report is not as full as it should be, and a few M. D.'s do not report at all.

We have just finished our jail, the sanitary condition of which is excellent, and our asylum for the poor has been repaired until it is in splendid condition, and I think altogether we have escaped unusually well, and have reasons to be proud of our escape from any severe epidemic, and of our condition as a county.

Very respectfully,

JOSEPH FREEMAN, M. D.,
Secretary of Sullivan County Board of Health.

ST. JOSEPH COUNTY.

C. N. Metcalf, Secretary State Board of Health:

DEAR DOCTOR—In compliance with your request, I send statement of health of St. Joseph County for the year ending October 30, 1891. For the past year the health of this county has been good. All contagious and infectious diseases have been of a mild form and easily kept under control. La grippe made its appearance during the winter of 1890 and 1891, being more fatal than on its first appearance in this county. Ten deaths were reported from this disease. We have had 43 cases of diphtheria reported and 11 deaths. No doubt several cases reported as diphtheria were ulcerative tonsillitis. We have a great many cases here during the fall and spring months, some times affecting a whole family before it stops. Measles have been quite prevalent during the past year, but of a very mild form; many physicians not reporting their cases and some families not needing the services of a physician. Only 3 deaths have been reported from this disease.

In typhoid fever, from some unknown cause, we have 2 cases reported and 5 deaths. Whether the patient died before the attending physician had time to report, or whether the disease could not be diagnosed until too late to make the report, we have no means of finding out. Scarlet fever, 48 cases reported and 2 deaths, has been of a very mild form, few patients being confined to their beds. The sanitary condition of St. Joseph County can not be beaten in the State. There are few open wells; 99 out of every 100 are either driven or bored. This change in manner of obtaining water has done more for this county than anything else. South Bend is supplied with pure artesian water for fire and domestic use. Being built on the dividing line between the Gulf of Mexico and the St. Lawrence, our drainage facilities are unequalled. All of our principal streets have good underground sewers. We have over seven miles of paved streets, and under the supervision of our present Board of Health, South Bend the past summer has been in a clean, healthy, sanitary condition, second to no city in the State. Mishawaka, four miles up the river, is a neat, clean town, kept in good sanitary condition; few deaths and few cases of contagious or infectious diseases. New Carlisle and Walkerton, with a population of about 700 each, are both well looked after by the proper officers, and are in good condition as to health. Physicians, as a general thing, report births and contagious diseases by reminding them once a month that they have not sent in any report. We have a few who think it below their professional dignity to do something for nothing, as they call it. A few prosecutions will bring them to a realizing sense of their duty. Our Cemetery Association will allow none buried without a burial certificate from the attending physician. This saves the physician the trouble of hunting up the family history as some one brings the blank certificate to him to be filled out. This should be a State law, then we can get complete death reports. Our county asylum, with an average of about fifty inmates, has been kept clean and healthy, there being but very little sickness the past year under the careful supervision of Superintendent Chapman.

M. MILLER, M. D.,
Secretary Board of Health.

STEUBEN COUNTY.

To Dr. C. N. Metcalf, Secretary State Board of Health, Indiana:

DEAR SIR—In conformity with your order of recent date requesting me to report on the work done, during the year 1891, by the County Board of Health, and on the general sanitary conditions of the county, I submit the following:

Owing to the difficulty experienced in obtaining statistics, I feel assured that a set of tables compiled from the physicians' returns would give no adequate idea of the sanitary condition of their respective districts. I, therefore, prefer to speak in general terms, from information personally obtained from physicians throughout the county.

During the spring and early summer months a limited epidemic of measles prevailed among children and young adults in the town of Pleasant Lake and immediate surrounding country. The cause of the epidemic could not definitely be determined, but certainly due to certain atmospheric or telluric conditions, whose causal relations to disease are not thoroughly understood. During the past two months there has been reported so far seventeen cases of typhoid fever occurring in and around the town of Angola and immediate neighborhood. The cases, as a rule, being well managed in most instances according to the rules of good reason. From information obtained, I have reason to believe that there occurred double the number of cases of typhoid fever than were reported.

The sanitary conditions of the county, the county jail, and the county asylum for the poor are all in an excellent condition, the two latter being well ventilated and clean.

Very respectfully,

W. H. LANE, M. D.,

Secretary of Steuben County Board of Health.

SHELBY COUNTY.

C. N. Metcalf, M. D., Indianapolis:

Shelby County is at this time almost free from contagious disease of any kind. However, during the months of June, July, August and September of this year diphtheria prevailed to an alarming extent in the city of Shelbyville, sixty per cent. of deaths occurring from all causes were due to diphtheria. A filthy condition of the eastern part of the city in which garbage was permitted to accumulate, and in which a system of farming was carried on pig styes were a purtenance of almost every lot in that part of the city, in fact pig and poultry raising was the only industry that was engaged in by the denizens of that benighted annex to our otherwise beautiful city. The disease was confined to that district and as soon as the pig styes were removed and cleaned and garbage destroyed, and privy vaults were cleaned and disinfected, the disease abated.

Within the last fourteen days a malignant form of diphtheria broke out simultaneously in two families living in close proximity to a cow stable and several large piles of manure from which issued a smell penetrating open doors and windows several rods away. The locality was otherwise healthy. The residences

in which the infected families lived was in the best and most healthful part of the city. It was said one of the families had washing done in a house where the disease had prevailed in the June and July epidemic. From all the data I can get in the premises I am forced to the conclusion that filthy manure piles, the accumulation of weeks and perhaps months had much to do in propagating the disease.

The asylum for the poor in this county and the county jail is in a fair state of sanitation and the inmates of both institutions have been well fed and clothed.

The school houses of the county are for the most part substantially built brick structures, and are generally well heated and ventilated. But there is a notable increase in the number of pupils who have disturbance of vision over preceding years, and it is no uncommon thing to see many little girls and boys wearing eye glasses in the school rooms of our city and county. This is in part due to the false ideas of the civilization of the times wherein in that race for knowledge much more is required of the pupils of to-day than the generation just past. Another prolific cause of impaired vision, in my judgment, is the location of black boards between the windows at the sides of the school rooms, so that when a pupil looks at writing on the board the light glares in the eye and letters or figures can only be seen at the expense of great effort of the muscles of accommodation of the eye, and instead of the boards presenting a homogeneous surface, four-fifths of all boards inspected are full of depressions and the surfaces have been finished in a way presenting a shining front when the color should have been selected for the purpose of absorbing light rather than throwing it back in the face of the pupil. There have been only a small number of cases of scarlet fever reported for the current year and these were confined to rural districts and were of the mildest type.

There were a number of cases of intermittent and remittent and typhoid-malarial fever developed in the city of Shelbyville in the months of July, August and September. Intermittent and remittent fevers have been unusual in Shelby County for almost two years and the cases occurring in the city of Shelbyville were in the opinion of the health department due to large amount of fresh loamy soil thrown out from trenches dug all over the city and left exposed to heat and moisture during the hottest months of the summer season.

Since the gas trenches have been filled there has not been any more cases of that type of disease in this city.

Physicians have been reporting more promptly than in the first months of the administration of the health office of the present Secretary. Owing to the system of appointing health officers, by political party in power, and choosing persons from considerations of party fealty, rather than from the sacred obligation to protect the public from the ravages of infectious diseases, insubordination in the discharge of the duties of the office of Secretary of the municipality of the city of Shelbyville has caused considerable friction, and has tended to bring the health office into reproach instead of commanding the respect and gratitude of the people who are depending on us for protection from disease.

Public sentiment in this community does not sustain the present health officer of the county in his effort to enforce the rules and regulations of the State Board of Health.

Respectfully submitted,

J. R. JENKINS, M. D.,
Secretary County Board Health, Shelby County.

TIPPECANOE COUNTY.

C. N. Metcalf, M. D.:

DEAR SIR—The sanitary condition of our county has been remarkably good during the past year. Have had very little typhoid fever and a moderate amount of malarial fever. La grippe was quite prevalent at one time, and some few deaths have been reported from it and its sequels. There were quite a number of months in the past year in which there were no cases of contagious disease reported, whatever. In the month of September we had quite a number of cases of diphtheria reported in Lafayette, and a few in the country. They were generally fatal. Public schools were closed and every precaution taken to prevent spread of the disease, with good effect.

Very truly yours,

G. K. THROCKMORTON.

UNION COUNTY.

Dr. C. N. Metcalf, Secretary:

The sanitary condition of Union County is first class. Public buildings are all new, within a few years, and are kept in first-class sanitary condition. We have had, through the past year, a few cases of diphtheria, scarlatina and other minor contagious diseases, but by enforcing a strict quarantine have so far succeeded in keeping them from assuming an epidemic form. The county is small and of course easily controlled, so far as sanitary measures are concerned.

E. C. THOMPSON,
Secretary.

VERMILLION COUNTY.

C. N. Metcalf, M. D., Indianapolis, Ind.:

DEAR DOCTOR—I will give you a short history of the sanitary condition of Vermillion County for the year ending October 31, 1891.

With the exception of a very general epidemic of flux, which began in this county about the middle of June, we have been remarkably free from diseases of a dangerous character. There have been a few, not to exceed five, deaths from scarlatina in the county during the year, all of sporadic origin. The same is true of typhoid fever. All of which would bespeak a good sanitary condition of the county. The county asylum and jail are well looked after, and the inmates, by the kindness of our people, enjoy reasonable comfort.

Very truly yours,

M. L. HALL, M. D.,
Secretary.

WARRICK COUNTY.

C. N. Metcalf, M. D., Secretary State Board of Health, Indianapolis:

Warrick County is now clear of all epidemic diseases, and the general health of the county is above the average. Typhoid and scarlet fevers have been reported sporadically only, with but three deaths from typhoid fever and none from scarlet fever. I have had no trouble in getting physicians to report births and deaths, with the exception of the ten year men, who, as a general rule, have been very negligent about reporting. The public institutions are in a fair condition, and the health has been very good in both the poor asylum and orphans' home. There has been no severe sickness nor deaths in either institution in the past year. We have at present twelve in the poor asylum and twenty-one in the home, all well fed and clothed. The jail is in good condition, but is seldom occupied.

Yours respectfully,

D. W. TUCKER, M. D.,
Secretary.

WASHINGTON COUNTY.

Dr. C. N. Metcalf, Indianapolis, Ind.:

DEAR DOCTOR—Regarding the sanitary condition of Washington County, in response to your recent request, I may say, that it is good and has not been characterized by anything unusual for the year ending September 30, with the exception of scarlatina. Of this disease there has been quite a number of cases in Salem, the county seat, and immediate surrounding vicinity. It was of a mild character, so much so, that, in many instances, to my knowledge, the cases were treated by domestic remedies, the services of a physician not being required. However, two deaths occurred from scarlatinal nephritis, presumably the result of exposure following the primary attack. There have been a few sporadic cases of enteric fever in the county with rather a larger per cent. mortality than usual. Our public institutions are in first-class condition. The county asylum buildings, erected with special reference to sanitation and convenience, are scrupulously well kept by the most efficient superintendent the county ever had. Candor compels me to state that all the physicians of the county do not come up to their full measure of professional duty. The difficulties in getting them to make their reports increase with each succeeding year. Although many of the doctors are prompt in reporting births, deaths, etc., many others have to always be written to, occasionally two or three times, in order to get any reports. Again, I am satisfied many physicians report births, but will not report all their deaths in practice, and hence, for statistical purposes, are inaccurate. Furthermore a few of the doctors come at me with the argument that the law is unconstitutional, that it is not right to compel a man to do something for nothing; and it does not carry conviction when I reply that the statute confers on a physician privileges and may, therefore, impose corresponding duties and that there is no oppression or injustice in requiring the medical profession to make known to the world statistics which may promote and are promoting the public health.

Very truly yours,

C. W. MURPHY, M. D.,
Secretary Washington County Board of Health.

WAYNE COUNTY.

The school houses in the county are in good condition, and their surroundings including the outhouses pertaining thereto, are also generally in fair condition in the rural districts, and in the city of Richmond are all that could be asked.

The county jail is not of the best pattern, but it is well constructed, and maintained in proper order.

The county infirmary is an ancient building remodeled, and with the annexes is well conducted. There is an ample supply of wholesome water for all purposes supplied by gravity. Automatic dumping water-closets make it convenient for the inmates, and aid materially in maintaining the sanitary condition of the premises. There is sufficient gravity water pressure from an adjacent reservoir for fire protection to all buildings occupied by human beings.

Wayne County can not be said to have had an epidemic within the year. During the winter and early spring there were a number of cases of influenza, but they seemed to be the vanishing points of the epidemic of the preceding year. There were also more cases than usual of diphtheria and scarlet fever, but neither of them assumed the character of an epidemic, though in the city of Richmond our escape from such a visitation was probably due to the intelligent, energetic and persevering watchfulness and labor of the efficient city health-officer. In the city these cases were isolated during the continuance of the disease, and the premises were always disinfected after the disease was over. In the country the same measures were sought to be carried out through the attending physician, and, it is believed, with fair success in most instances. Typhoid fever and measles are the only other contagious diseases that have appeared in the county, and neither of them was thought to exceed in number the average of other years.

Reviewing the morbidity of the year, it may be fairly stated that, while there were some unusual features in the order of the manifestation of disorders, such as the large number of some particular disease at one time with the almost entire absence, for the time being, of other forms, the sanitary condition of the county has been good.

Respectfully submitted,

JAMES F. HIBBARD, M. D.,
Secretary Wayne County Board of Health.

WHITE COUNTY.

C. N. Metcalf, M. D.:

White County, like many others of the State, has had a number of cases of diphtheria, twenty-six being reported to us, with six deaths. Most of the cases were confined to one family in certain neighborhoods.

Two deaths occurred from diphtheria in one family. Orders were given for a general clean-up, which perhaps were not carried out fully. Three months later, when the house-cleaning time came on, another child died of the same disease.

Forty-two cases of measles have been reported, most of them in our county-seat, Monticello; a large number, we think, not being reported; two deaths occurring out of the number.

17—Bn. of H.

Two cases of typhoid fever are all that have been reported, but three deaths from the same disease, which leads us to the belief that some one has neglected to report.

We have no knowledge of but one case of scarlet fever. We have had but little trouble the past year from a sanitary standpoint. A few places in other towns have needed our attention, but a notice was deemed sufficient, and the "stink holes" were cleaned.

Physicians have been reporting better the past few months than before. We attribute this to the fact that we had a number of postal cards printed and mailed, one to each physician in the county, the last of each month. It seems to be a reminder to them to report.

The condition of our jail is better by reason of a new furnace, put in this fall.

Our County Asylum is in better condition, as every thing is kept very clean. We have made several reports to the Commissioners regarding said building, but some of our recommendations are still unheeded.

Our Orphan Home is in good condition, and the children healthy. White County is still pushing ahead regarding the drainage of the wet land, and many hundred acres of land are being made the most productive of the State.

We expect to miss but few reports from our physicians the coming year, and White County is among the *first* sanitarily.. Yours truly,

ROBISON & MCCANN,
Secretaries White County Board of Health.

WHITLEY COUNTY.

C. N. Metcalf, M. D., Secretary State Board of Health, Indianapolis, Ind.:

DEAR DOCTOR—Complying with your request for information in regard to the general health and sanitary condition of this (Whitley) county, I have this to report:

For the year ending September 30, 1891, the general health has been quite good and there have been no epidemics of any kind. We have had a few cases of scarlet fever in different parts of the county, and three deaths have been reported during the year from this disease. Only a few cases of diphtheria reported and only one case that proved fatal. Typhoid fever has prevailed in nearly every part of the county, but only a few cases in any given locality. Three fatal cases are reported for the year. One case of hydrophobia, resulting in death, is reported near the village of Coesse, this county.

The county asylum is in good sanitary condition, and well and neatly kept, the Superintendent and his wife seeming to delight in ministering to the comfort and health of the inmates under their charge. It will certainly compare favorably with the asylums in the surrounding counties or anywhere else.

The county jail is in fair condition and has but few inmates.

The school houses are generally well located, and well constructed and comfortable, and much greater attention is now given to the supply of drinking water, many school grounds having tubular wells, which insures plenty of pure water for

pupils and teachers. The County School Superintendent is energetic and enthusiastic in promoting the best interests of the schools, and the teachers, as a rule, are well up in matters pertaining to school hygiene.

The physicians, with a few exceptions, have been prompt in reporting births, deaths, and contagious and infectious diseases, and have been very prompt and energetic in taking measures to prevent the spread of disease, and the people generally have shown a willingness to do their part, that has been highly gratifying to the County Board.

Hoping that improvement may still continue, I remain

Yours respectfully,

DAVID E. WEBSTER, M. D.,
Secretary Whitley County Board of Health.

DIFFERENT OCCUPATIONS AND TRADES IN RELATION TO PUBLIC HEALTH.

BY DR. T. M. KYLE, AURORA, IND.

When we take a retrospective view of the great number of our citizens, both male and female, young and old, who are dependent on their own efforts for their support, we can readily understand why so many are compelled to enter the various trades and occupations.

Many a person is forced to accept a position to which he is morally and physically unsuited. And, further, when we consider the requirements exacted at the hands of the many thousands of our laborers, and in many cases compelled to perform their daily toil under the most unfavorable circumstances, not only as to their social but their physical well being. A review of the health relation and how affected by the different occupations and trades is quite as well understood by both American and British medical associations, and they are looking to the interest of labor, and are devising ways and means whereby the period of human life may be lengthened, and more fully direct the minds of the people to the consideration of such subjects, to the end that all persons who enter the different occupations and trades may know more and know better how to prevent disease as well as to know something of the occupations in relation to public health.

It is a true saying, and worthy of all acceptance, that our health is our wealth as well as God's divinest gift. And to carry out our views, and recognize some of the causes and classify them, that we may more fully understand some of the conditions causing the different forms of disease. It is not an easy thing to say what will be the effects of certain forms of occupations or trades in the causation of disease among those who are compelled, by reason of their occupation, to be subjected to the influence of poisonous gases, dusts, as well as parasitic diseases, without reference to accidents so common in such institutions, exposure to excessive range of temperature, either hot or cold excessive strains on the different parts of the body, the range and severity of those several classes, to produce disease, differs widely. We will find by the study of the different effects that we will be speedily convinced that, besides those primary or intrinsic factors, there are many circumstances of a collateral character that gives it intensity, or it may be to modify its activity, but may not be an essential part of the disease.

This brings us to a further consideration of our subject, and determines, to a greater or less degree, the relation to public health, or collateral circumstances varying in some degree upon the various kinds of manufacturing industries; their situation, urban or rural, their site in relation to soil and climate, and other influences; how the laborers are employed, whether for day or night; their social combinations as well as their habits; whether temperate or intemperate. All these conditions determine to a great degree the effects on public health.

Statistics show us that there are employed in the different trades and occupations thousands, both male and female, young and old. Some are employed in our mines, constantly exposed to the different gases, besides the exclusion of natural light and heat of the sun, while thousands composing the great army of laborers take up their daily march to their factories and business houses. In this class we find the overworked young man, as well as the overworked old man. In the

solution of this question we find the most dire results following, not only to health, but happiness. How many men, to sustain their strength for the full performance of their daily toil, seek to find that needed strength in the wine cup!

There is another class which labors from day to day exposed to all the deleterious products which are to be found in our manufacturing establishments—the atmosphere heavily freighted with impure gases; dust constantly entering the air passages; first setting up a slight irritation in the lungs, until they lose their elasticity and their capability for the inspiration of pure air. This condition may be considered as unfortunate, failing to awaken attention to the immediate and tangible consequences of its action until some permanent form of disease is thoroughly established.

How shall the various trades and occupations be made not only to serve the best interest of labor, but to devise ways and means to not only prevent disease, but to increase the period of human life? May we answer in conclusion, construct and maintain all our manufacturing institutions of every kind strictly in accordance to the most improved laws of sanitary science.

ONE THOUSAND CASES OF LABOR AND THEIR BEARING UPON VITAL STATISTICS.

BY G. W. H. KEMPER, M. D., MUNCIE, INDIANA.

A few months since I completed a series of 1,000 cases of labor, and with considerable care, gave an elaborate analysis of the same.* I shall not at this time recapitulate, or enter into any lengthy review of my cases, but rather call attention to some matters in their relation to the subject of public health and vital statistics. My work is of some interest because it shows results obtained outside of large cities and hospitals—representing, probably, a fair example of Indiana obstetrics. Consultation cases have been omitted, as such would add an undue number of difficult cases, and so not fairly represent the practice of one person. All my cases occurred in Delaware County, Indiana.

The following is a general summary of my cases—dividing them into two groups of 500 each, in order to demonstrate a marked similarity between the two columns. In some instances the corresponding figures are so nearly alike that we may well question whether medical statistics do not observe cycles, and wish for more facts to prove or disprove such a theory:

	1st 500.		2d 500.		Total.
Primiparæ	173	+	160	=	333
Multiparæ	327	+	340	=	667
Males	258	+	260	=	518
Females	251	+	244	=	495
Primiparæ { males . . .	70	+	76	=	146
females . .	104	+	84	=	188
Vertex presentations . .	486	+	483	=	969
Vertex and hand	1	+	1	=	2

* "One Thousand Cases of Labor and their Lessons." *Medical News*, September 12, 1891.

	1st 500.		2d 500.		Total.
Face	0	+	2	=	2
Breech	13	+	13	=	26
Footling	7	+	4	=	11
Shoulder	2	+	1	=	3
Twins	9	+	4	=	13
Convulsions	6	+	3	=	9
Post-partum hemorrhage	6	+	6	=	12
Adhesion of placenta . .	8	+	3	=	11
Prolapse of funis	3	+	2	=	5
Placenta previa	1	+	2	=	3
Inversion of uterus . . .	1	+	0	=	1
Turning	2	+	1	=	3
Cephalic version	1	+	0	=	1
Forceps	6	+	31	=	37
Colored	7	+	8	=	15
Illegitimate	5	+	3	=	8
Death of mother	3	+	0	=	3
Stillbirths	17	+	19	=	36

As already indicated, but few of the subjects named in the above table will be considered, but I give it complete for any who may desire to study it in detail. It will be observed that one-third of my cases were primiparæ, and the remaining two-thirds, multiparæ.

By reference to the table it will be seen that the primiparæ gave birth to more females than males. I found this law to hold true at all ages except that of twenty-one years. Whether this exception generally holds good, I can not state. Klei-wächter declares that primiparæ from twenty to twenty-one years of age bear more girls than boys. In my cases I found that forty-four primiparæ at the age of twenty-one gave birth to thirty-one females and thirteen males. The same author declares that the older the primiparæ is the more likely is she to bear a boy. I found no such tendency, but rather the reverse.

The following table is interesting as showing the preponderance of the small families in my experience:

No. of Labor.	1st 500.		2d 500		Total.
1st	174	+	160	=	334
2d	117	+	116	=	233
3d	74	+	87	=	161
4th	38	+	51	=	89
5th	34	+	29	=	63
6th	17	+	17	=	34
7th	13	+	14	=	27
8th	16	+	14	=	30
9th	5	+	5	=	10
10th	6	+	4	=	10
11th	0	+	1	=	1
12th	0	+	1	=	1
13th	1	+	0	=	1
Not stated	5	+	1	=	6
	500		500		1,000

It will be observed that the labors numbered 1st, 2d and 3d aggregate 728; while those numbered from 4th to 13th inclusive, aggregate only 266. In fact, the small families of the present day contrast remarkably with the large ones of a few decades ago.

The number of children born in the 1,000 labors was 1,013, there being thirteen multiple births. Of the number stated, 518 were males, and 495 females; 971 presented by the vertex—a ratio of 95.85 per cent., and only 4.15 per cent. for all other presentations.

Thirteen pairs of twins were born in my 1,000 cases. This was a ratio of one in 76 $\frac{1}{2}$ labors, and corresponds very nearly with the statistics of Churchill, who found that in 455,632 labors compiled from Great Britain, France and Germany, twins occurred once in 77 $\frac{1}{2}$.

I met with nine cases of convulsions—seven with primiparae, and two with multiparae. The late Dr. W. C. Willard, who practiced in this county for a period of more than thirty years, told me, a short time before his death, which occurred in 1869, that he had never met with a case of convulsions in his own practice. I began practice in the same locality in 1865, and in twenty-five years met with nine cases in my own practice—a ratio of one in 111 $\frac{1}{2}$ cases. Churchill gives 172 cases in 103,537 compiled cases—a ratio of one in 602 cases. Another striking contrast in this disease is the rate of mortality of the present day compared with half a century ago. I lost one case out of the nine. Jacob states that in his time scarcely any survived. Dr. Parr, in his dictionary, that six or seven out of ten die. Dr. Hunter, that the greater proportion were lost. Churchill gives a mortality of 45 out of 165 cases.

There can be no doubt that puerperal convulsions are far more common at the present day, and, also, far less fatal than in former years. Some of my cases were mild, but others were severe. I incline to the opinion that women at the present day partake more of the nervous temperament, and that the disease, acting upon such constitutions, is a less fatal affection than formerly.

Three of the women died in my one thousand cases. No. 1 died, on the seventh day from her delivery, of puerperal convulsions. No. 2 died on the tenth day after her confinement. Her death was due to an enfeebled condition caused by nursing sore-mouth, and two former abortions at short intervals. No. 3 was seized with a chill the day before her labor, which proved to be the initial of an attack of pneumonia that terminated her life eight days after her confinement.

Dr. George J. Englemann, in a recent work, makes this statement regarding the mortality of mothers in labor: "We are told that the records of a prominent life insurance company reveal a mortality of 17 per cent. in private practice, and that among the better classes."* Dr. B. C. Hirst, editor of the work quoted from, adds a foot note in which he says: "Extensive investigation has shown the mortality of confinement cases in general practice to be about one per cent." My mortality showed one death in 333 $\frac{1}{2}$ cases, or $\frac{1}{333}$ of one per cent.

In my 1,000 cases (1,013 births) I had thirty-six still-births—a ratio of one death to 28 $\frac{1}{2}$ births. The deaths were due to the following causes:

- 4 had died in utero (cuticle loosened).
- 4 were anencephalic monsters.
- 1 presented a deformity of the head.
- 3 occurred in cases of placenta prævia.

* American System of Obstetrics, Vol. I, p. 64.

- 1 with concealed hemorrhage of mother.
- 1 the child had an enormous abdominal tumor.
- 2 were due to convulsions of mothers.
- 1 was due to chill of mother the day before her confinement (fatal case of pneumonia referred to above).
- 19 were due to causes connected with the gestation or labor, and more or less preventable.

It will be seen by this table that nearly one-half of the deaths were due to causes over which the physician could exercise no control, and of course unavoidable.

CHOLERA-INFECTED HOGS.

E. O. PRICE, M. D., WHITESVILLE, IND.

I have lately received a copy of the report of the State Board of Health for 1890, and find in it many useful hints concerning public health, as well as several well prepared papers including several subjects of great importance, but find no reference made to a subject, which must have received the attention of the Board many times and doubtless has—a subject which I consider of the utmost import to the health and happiness of the people of the State as well as the nation, but one which has not as yet received the attention at the hands of law making bodies and health Boards generally as it should have—I refer to the sale of hogs infected with cholera. Now, it is a well known fact to any one at all acquainted in the country, that it is a common if not a universal practice among farmers, as soon as their herd becomes affected (i. e. one or two or more die) to at once place them on the market. Now, it is not my intention to write an extended paper on this subject, for I have not made an extensive inquiry into it.

As these hogs usually sell at the usual price along with other hogs in the community I presume that all that are not actually sick when market is reached are sold along with other hogs that the shippers may have. In fact I have been told so by men who know that this is the case. When we look at the vast number of hogs that are received at our stock yards it must be apparent to any one that a critical examination is next to impossible and is not made under our present inspection service, and that many hogs of these herds are daily slaughtered that have the disease in its incipency if not actually sick at the time.

We believe further that only those hogs that show actual symptoms are ever excluded; that our present inspection service is ineffectual and often performed by men unfitted for the position.

In fact I was told by good authority of a bunch of hogs that were actually sick and had been rejected, that were shoved through by the next rush and sold as good hogs, but of these we do not speak and only of those herds that are known to have cholera before they leave the farm and are marketed because of that fact. Now, it is a fact that many of these hogs die on the way to market and who can tell how many more would die by the next day if the butcher's sledge did not end the

scene. This habit of placing these hogs on the market is a common practice and one looked upon as legitimate by the best farmers in our country and who are otherwise upright and honest men. They do so either under the idea that it is no harm to cheat the public or are not fully aware of the meanness of the act and possibly some who don't care who suffers just so their own gain is assured—probably some to all three class. However, it is done every day.

While such practice as this is allowed to exist, undisputed and tacitly sanctioned by all as rightful and legitimate, is it any wonder that our French brothers have found it advisable to exclude our pork? I believe that any herd affected is unfit for market (sick or well) until a sufficient time has elapsed after the last deaths to render it certain that the disease has entirely ceased, and any one known to sell such a herd before such lapse of time should be prosecuted and fined heavily. As one interested in the workings of the Board and believing this subject is not sufficiently appreciated, I respectfully call the attention of the Board to it and suggest that an extended inquiry be made with a view to finding the number of these herds that are marketed in a single year, believing it would be a fruitful source of information.

STERILIZED MILK.

BY E. F. BRUSH, M. D., MOUNT VERNON, N. Y.

Up to this, the bacterial age, the application of heat in the preparation of food was simply to improve its digestibility, or to meet the requirements of advanced civilization by improving its appearance, odor or taste. Before man reached the age when fire was in use, putrefaction was the agent allowed to improve its digestibility of his meat-food. After the discovery and use of fire, it was found that it was not necessary to await the process of putrefaction to make food palatable and easy of digestion, but that fire would also improve its digestibility and increase its palatability, and that too in a more rapid manner. Now, with the prevailing idea that all diseases are due to a germ, another function of heat is to apply it to food in order to kill the germs that exist everywhere, and thus to avoid the imaginary or real pathogenic influences of bacteria. Enthusiasms in science is dangerous, and the present devotion to the germ phase of disease can not be classified as other than enthusiasm, and the prevailing enthusiastic warfare against all germs, leading as it does to sterilization of food, may be dangerous. Perfect sterilization as applied to food means perfect death, and whether absolutely dead food is the best for infant nutrition may well be questioned.

The adult civilized human being has no natural food. All his nutritive material has been improved, and some of it almost generated *de novo*, by cultivation, selection, combination, etc. All wild animals have their natural food, and the young of all mammiferous creation are provided by nature with a natural food. Among the animals where the female can not supply the natural nutriment the duty devolves on the male. But man, with his inherited idea of artificial food, imagines that the human young can be nourished by artificial preparations; the

statistics, however, relating to artificially fed infants show how poorly the plan works. The natural food for the human young comes from the female breasts; this is living, vitalized food; certainly we know that this food can be procured from the breasts of females, who have not recently or at any time passed through the parturient state. We likewise know that the male is provided with mammary glands which will secrete this natural food for the young. Thus it will be seen that nature has abundant resources to supply vitalized food for the young, and it would seem, from all the plain teaching of dame nature, that the prime, necessary quality of food for the young is *vitality*. Contrary to this is the enthusiastic endeavor of the antibacteriologist to thoroughly devitalize all the food prepared for the baby. In the present state of society it seems inevitably necessary to endeavor to pass some of the young through babyhood by the use of artificial foods. Of all the artificial foods easily procured and abundantly supplied, the milk of the dairy cow is universally admitted to be the best. Unfortunately, however, the cow is a delicate animal, subject to many diseases that affect the milk perniciously, and her keeper is careless, often allowing the milk to become contaminated from many sources. The proper sterilization of cows' milk, when used for infant food, without doubt eliminates or neutralizes many of these disturbing influences, and the work of Dr. Soxhlet, Dr. Caille and others, has been without doubt of great value during the present condition of the dairies and the milk supplied to large cities.

But the apparent satisfaction that has taken possession of many at the idea of sterilization as having solved the problem of infant feeding may possibly delay the absolutely necessary reform that is required in the dairy itself. Cows that are absolutely healthy, receiving proper food and care, neither pregnant or ovulating, supply a milk, which, if properly guarded retains much of its vitality and is absolutely the best artificial nourishment for the human young. Sterilizing milk obtained under these conditions robs it undoubtedly of much of its nutritive value. Dr. Randnitz, of Prague, in Hoppe-Seyler's *Journal for Physiological Chemistry*, shows that much less nitrogenous material is absorbed from milk that has been boiled than from the same milk when fresh. He shows that 9.4 per cent. of nitrogenous material was retained in store by growing animals fed on fresh milk, and only 5.7 per cent. was assimilated by the same class of animals fed on boiled milk. It is a common observation that calves fed on fresh milk have what is apparently a normal yellow liver, which makes a very tasty human food, while those fed on the artificial foods of the dairy—boiled skimmed milk, hay-tea, and so forth—have a liver very dark in color, tough, and not at all tasty like the normal tender liver of the young life. How much the vitality of the food has to do with this condition of the liver can only be inferred, but it does seem that one of the absolute requirements of perfect nutrition is that some article of diet must be fresh—that is, must retain its vitality—or, in other words, be not absolutely dead. Scurvy is one of the diseases which result from a devitalized diet—that is, one which excludes fresh living vegetable or animal matter. Now, what vitality is, it is almost impossible in the present state of our knowledge to define. With the animals we regard consciousness as one of the phenomena of vitality; but the absence of consciousness does not indicate death of the tissues. Vitality in vegetables is the principle that allows them to grow and reproduce; a vegetable would be absolutely dead when it will not grow under proper and favorable conditions. The egg of the hen, which is by common consent classified as a perfect food, because under proper conditions it builds up a perfect, organized and living body, if sterilized can by no possibility reproduce a living chick. Many articles of food, undergoing

decomposition by reason of the living germs they contain, possess more or less of the vital principle which, in this case of course, belongs to the germ.

All around us vital processes are taking place in bodies which we call dead, and when human beings are placed in a position that precludes them from the possibility of obtaining some articles of diet not dead, they suffer from scorbatus, and when suffering from this disease the ingestion of food, whether it be animal or vegetable, that still retains some vitality, causes the morbid conditions to subside. In arctic regions, when men are deprived of fresh vegetables, they eat their meat raw. The general impression derived from medical text-books is that fresh vegetables are necessary for the cure of scurvy, but both Hall and Kane aver that the fresh raw meat is just as efficacious. Fresh cooked meat is not in any sense an antiscorbutic. We have many accounts of soldiers suffering from scurvy where fresh cooked meat has been a regular article of diet, and all the antiscorbutics (with one exception—lime juice), are nutritive materials that are not sterilized—or, in other words, that retain some degree of vitality. It is not necessary that a child should absolutely suffer from scurvy to indicate that its food is improper. There are undoubtedly a certain number of pathological conditions that are compatible with life, but the ability to resist disease and enjoy life is, beyond doubt, lessened by some conditions of nutrition, and, as the proper and natural nourishment of the young is a product from living tissues, itself undoubtedly containing some vital principle, it follows that children, as well as adults, require food not devitalized by heat, sterilization, or preservatives. The heat necessary for the sterilization of milk, as practiced at present, undoubtedly lowers its nutritive value in other ways than by depriving it of whatever vitality it may have been possessed of. The soluble albumen is made insoluble, and many of the salts held in solution are precipitated, and thus become also insoluble; but of course, the lowering of the nutritive value of a food is far preferable when the sterilizing process eliminates or neutralizes absolutely poisonous principles or materials, and if it were beyond the reach of the powers that be to improve the milk supplied for infant feeding, we would all favor the present mode of sterilization, even while fully aware that the food is not perfect.

But it is within the lines of human possibility to improve the dairy and thereby render the milk more nutritious and more free from those disturbing elements which render sterilization necessary. The cow herself should be sterilized; the removal of the ovaries from the milking cow at once eliminates from the dairy one of the great sources of disturbance as affecting both the nutritive properties of the milk and the pathological conditions thereof. A cow that is supplying from her own system the necessary material to build up a foetal calf, can not possibly at the same time secrete a milk that is not deprived of some of its nutritive elements. The bulling cow, under the excessive nervousness that accompanies ovulation, secretes a milk intensely acid, and possessed of a bad odor, which indicates a morbid condition of the fluid. Abortions in the dairy are common, and much of the bad milk which finds its way to the markets in our cities is decidedly bad from this cause alone. Retained placentas with all its train of morbid conditions is common in the dairy of breeding cows. All these disturbing influences are eliminated by the proper sterilization of the cow. I hope to see the day when the dairies that supply baby food shall be composed of spayed cows alone; and when the public recognize the present bad condition of the baby-food dairies, then the law will undoubtedly separate the breeding from the dairying in animal industry, and one of the greatest advances will be achieved in the artificial feeding of children by sterilizing the cow and allowing the infant fresh food.

FOREIGN IMMIGRATION AND SANITATION.

 BY J. D. M'CANN, M. D., MONTICELLO, IND.

In looking over the world from a sanitary standpoint we see many places to criticise and many ways of conducting affairs that to us look very bad indeed, if not unhealthy in the superlative degree.

A great many of those places and the ways and means of their obliteration have been discussed from time to time. In looking about for a subject to comply with the request to write an article the result is the immigration idea as here given.

The restriction of foreign immigration has been attracting the attention of our law makers, and men of authority in our federal government for a number of years, and it should well attract the attention of our medical men of all schools, and especially so of those physicians comprising the members of our health department.

If we could stand on the landing at Castle Garden and view the masses as they come from all parts of the old world you would no doubt shudder at the possibility of future contact with them, even in the outer world with nothing but heaven and earth to circumscribe the expansion of the foul smelling atmosphere.

But to get a clear idea of the immigrant life take passage on one of their trains from New York to Pittsburg, or from Pittsburg to Chicago, and see if your imagination does not have you inoculated with all the diseases with which the body can be impregnated.

The air will be oppressive and foul smelling; even a bystander on the platform of some of our trunk line railways will turn away with a feeling of nausea after a close inspection of the train's interior.

Trace those immigrants hither and yonder, to town and city of this our fair country; see them flock to the poorer tenement houses, bunch like animals, and exhale from their ill kept bodies emanations filled with zymes and phites.

Just a few days ago my wife asked a good, old German auntie if she would not like to visit the "Fadderland" again. Her facial expression would be hard to reproduce as she exclaimed in disgust, "No, I can smell the ship yet."

Not only their persons, but their surroundings are bad, and should there be defective, or, perhaps, no sewerage, the malarious looking swamp of years ago would exhale a sweet fragrance compared with that which tickles the nasal chambers in these localities. We are not converts to all the micro organisms that some of our scientific brethren would make us believe exist, but we do believe that constant contamination with filth breeds disease.

Our law makers of either national or local repute know little of sanitary affairs, neither will they rely sufficiently upon the health officers to instruct them.

Laws have been passed by our Federal Government to prevent, if possible, the great influx of foreign paupers. It was the evident intention of Congress by these enactments to secure proper protection to those arriving, and at the same time guard against the great number of convicts, lunatics, infirm persons, and

chronic alien paupers. The following figures will show some statistics as to the number of immigrants arriving: From 1820 to 1830, 143,400; from 1830 to 1840, 599,100; from 1840 to 1850, 1,713,200; from 1850 to 1860, 2,598,200; from 1860 to 1870, 2,466,700; from 1870 to 1880, 2,944,600; from 1880 to 1890, 5,176,200.

To any enlightened person comment is unnecessary to show the terrible influence that such vast numbers would have upon the health, welfare and sanitary condition of our country. Well informed men assert, and we believe with all fairness that the quality of this vast stream of immigration has diminished with each decade, and in about the same ratio as they have increased in numbers. A century ago they came to secure freedom and a wider civilization. If each decade brings a more degraded people and in larger numbers, what are we to expect from the offspring of the depraved thousands.

The present law, however, is little or no barrier against the shipment of these classes, and there is no remedy after they have passed our ports. The expenditure of a small sum for passage to any interior point usually insures delivery of the person to the place of destination, and whatever his ailments no provision is made for his return, and he falls upon the community where he may be a public charge, whether it be disease of the body or mind.

The statistics of the prisons, penitentiaries, poor-houses, asylums and other eleemosynary institutions of the United States show that there are more of the alien classes in them now than in former years, and are constantly increasing.

We might claim that his evil is due largely to the defect in our federal laws; in that its execution depends upon our local officers likely to be influenced by local considerations in the general hurried and superficial examination of immigrants at the time of landing in the absence of any reciprocal action between the officers of the various ports and in the failure of the statute to prescribe any penalty for its violation.

If we may credit newspaper reports this will illustrate: A short time since a family arriving, one girl was found to be *enccinte*. Upon inquiry she stated that a certain young man there was the father of her unborn. The two were detained while the others were passed on. The parties were notified that they must either marry or be sent back. Rather than do this they consented to marry, which was quickly done, and when presented to the mother by custom officials as man and wife, the horror of that mother can only be imagined as she exclaimed: They are brother and sister, and that not he, but a young man in Germany was the author of the girl's condition. This shows the superficial examination as stated above likely to occur.

In a general convention at Washington in 1888 the consul at Palermo said: "Immigration is here considered a mere matter of business so far as steam-ship companies are concerned, and it is stimulated by them in the same sense that trade in merchandise is when they desire a cargo, or to complete one for their vessels.

"Law never enters the subject so far as immigrants are concerned. The company desire that all space in their vessels shall be occupied, and in order to accomplish this they employ immigrant brokers, or agents, to whom they pay three to five dollars for each immigrant obtained. Sometimes even more than the latter sum is paid, the amount depending upon the competition or the urgency of the case.

"The brokers, as may be well imagined, are a low, lying, dishonorable set who will swear to anything to induce the poor ignorant people to immigrate and thus earn their fee. They tell them that work is plenty and wages high, so that in a few years they can return home again and live without work. Thus they are persuaded to sell or mortgage what they have and come.

"It would be a great blessing to our people here if the class of Italians who are practically forced by the brokers to immigrate could be kept from landing."

The consul at Venice wrote: "Immigrants are recruited from those people, whom, as a rule, their native country does not care to retain."

Again he says: "The educated, intelligent Bohemian remains at home."

The consul at Auerberg, Saxony, said: "Any one who observes the masses of humanity crowding on board the great ocean steamers bound for the promised land can but be convinced that fraud is used in obtaining immigration."

Again he says: "A few days ago I saw at a railway station two common freight cars filled with immigrants for the United States. Forlorn looking creatures, half starved and not decently clad. I have observed these people on all occasions, and I do not hesitate to say that one-third of all the immigrants to the United States from the continent of Europe are not only undesirable but positively injurious and dangerous."

Now from our stand-point and looking at this class of immigrants, packed together as it were for days or weeks, can we as health officers give them a sanitary welcome? Will they not breed disease and scatter it broadcast as they travel to their uncertain destination? They are not only packed together while enroute to this land of promise, but they flock together by hundreds in certain localities of our cities. Only a few days ago the police of Chicago drove one hundred and fifty from one tenement house that was in danger of falling because of an excavation being made near by. They not only contaminate by disease, but their vileness and immorality makes sad havoc at times with those of purer and better minds. They rear children and leave the impress of all their imperfections upon them to be handed down indefinitely.

We are opposed to foreign immigration as a whole; in a restricted manner we would bid them welcome. If they are emigrating to this country that we may be compelled to feed and clothe them, shut the door. If they are to come here to spread disease that will endanger the health of our loved ones, shut the door. If they are to come here in order that we must maintain larger prisons, more almshouses, and many more officers of the law, we say close well the doors of our country and keep it unpopulated.

"Cleanliness is next to godliness" is a familiar saying, and if they must come and we can not have the God in them they should at least be clean and presentable before making the debut among us. Self-preservation is the first law of nature is a proverb aptly suited here. When we think of the refuse (we do not get the better class) of crowded Europe being dumped in our door-way is it not time for strong sanitary measures?

We desire to preserve our own health and that of our fellow-man, and we surely can not if we must breathe the foulness of their emanations. If we place ourselves in front of a moving train we will be crushed. If our children come in contact with many of the diseases to which they are heir they suffer the consequences. Unrestricted foreign immigration brings its disease and contaminations, and when it gains foothold, stretches out its poisoned fangs to pollute and corrupt others.

Where, then, is our preventive, our virus by which we can vaccinate our nation against these dire calamities. In our opinion it is none too soon to grapple with the great problem that holds so many sanitary dangers. It is not the present class that we fear alone, but the coming generations that must necessarily be of a blighted nature, considering the parentage. If this generation has physical and moral defects, likewise will posterity be afflicted.

A proposition has been made to add a medical officer to the cabinet; much discussion has taken place regarding it, and if he is to deal with no other question save immigration from a sanitary point of view, the need is urgent. This question is laden with grave consequences regarding our Nation's people, beside which, many others much discussed sink into insignificance. All of you health officers know what a poise is made in your towns if a bad smell is scented by any one. It is high time we should raise our voices to warn the officers in high authority that our homes are in danger and our future destiny is imperiled.

PRACTICAL SANITATION.

BY LEWIS C. JOHNSON, M. D., FOUNTAIN CITY, IND.

Of the many measures that have been, and are yet to be, brought into use by the health officers of the State for improving the sanitary environment of our people, it is the purpose of this paper to speak of some of the simpler and most urgently needed practical rules for the prevention of the development and spreading of the infectious diseases. By "infectious diseases" I mean all those diseases which are produced by an infection of the system by living organisms, or (their products) which have the power, under favorable conditions, of reproducing themselves.

This reproduction may go on entirely within the body of the diseased persons as in diphtheria, scarlet fever or measles, constituting the true contagious diseases communicable directly from the sick to the well. Or, it may occur outside of and independent of diseased persons—in swamp, cellar or privy—as in the malarial diseases; or, yet again, there may be two distinct steps or stages in this process of reproduction—one occurring within the body of a patient, the other outside, as in typhoid fever whose germ having lived a part of its direful life within a human body, requires for its development the favorable conditions of filth and moisture to complete its cycle of life when its progeny is again ready for other human victims.

Wherever and however this reproduction of these disease-producing organisms goes on there are certain conditions or environments which favor their development, and others which hinder or stop their growth. In order to secure the hearty co-operation of the people for our sanitary measures it is of primary importance that they be made to thoroughly comprehend that it is the aim and end of all our sanitary measures to bring about the conditions which are destructive to these disease-producing germs. For this purpose it seems wise that the Health Officer of each city and town should have placed directly in the hands of each householder under his jurisdiction a circular letter stating clearly the measures he wishes to have enforced, together with the reasons therefor. This should not be done once only, but again and again. And each Health Officer should endeavor to make this so plain and practical as to induce a spirit of local pride in the cleanliness and healthfulness of his locality. To do this thoroughly will require much intelligent work of the local Health Officers, for not only must the general instructions of State Boards be brought before the people, but each officer should study thoroughly his own locality.

First. Its surface drainage. If he has carefully studied this, and will go to the street-working officials at the right time, and in the proper spirit, by using some "tact" he can generally secure good sanitary conditions so far as the surface of the streets are concerned. And this is of great value, for in reality it makes the difference between a clean, pleasant and healthful town and a filthy, disease-infected one. As a rule the street-working officials, especially in the smaller towns, have not given these matters much thought, and if the Health Officer can go to them with a clear, well matured plan of street and alley grading he will easily secure their attention, and usually get what he wants.

Second. To be able to give valuable advice concerning the water supply of the town the Health Officer must have obtained accurate knowledge of the character, formation and dip of the deeper strata underlying his town. For instance, the town of N. is situated upon a plain where the soil to a depth of from three to six feet is loamy and porous; beneath this for twenty-two to twenty-five feet is a dense hard-pan clay, almost absolutely impervious to water, while still below this is a layer of sand and gravel in which is abundance of water, that has entered the sand strata a few miles away where the ravines of the country extend down to the sand.

Now, in the town of N. are two classes of wells, (1) open, dug wells which extend from the surface to a depth of from fifteen to twenty feet into the hard clay. They of course drain into themselves the surface water which has percolated through the soil around them, often having stables or privies near enough to receive contaminated water, or, what is still more common, the slops from the kitchen are thrown dangerously near them. The second class of wells consist of iron pipes driven through the hard clay to the sand strata beneath. These obtain water from a better locality, with the additional advantage of having filtered through some miles of sand. The Health Officers of N. ought to be able to tell the inhabitants what kind of wells to use, and why.

The *why* in this case being that the water of their surface wells furnishes a most excellent environment for the development of disease germs. The Health Officer who only makes his monthly report of births, deaths and diseases, falls very far short of performing his whole duty.

Many, although not all families of disease-producing germs find their most favorable environment when surrounded with filth and moisture. These conditions being so often found about privies, cellars, stables, and near the surface of wells, especial directions should be sent to each householder, instructing them as to the need of great cleanliness in these localities.

There are some of the infectious diseases which should, I think, be especially watched and guarded, not simply by placarding the houses as in scarlet fever and diphtheria, but it should come within the province of the Health Officer, when his powers and duties are fully appreciated to so far have control of typhoid fever cases as to have the right and authority to require the thorough disinfection, or better still, the destruction by fire of all typhoid stools. When this is done, and *only* then, I believe we shall be able to *stamp out* typhoid fever. The value of such a rule rigidly enforced will be appreciated by all who believe that typhoid fever is a result of the presence in the patients' system of germs whose principal habitat is in the intestinal canal, and that these germs are chiefly cast off by the stools, and being so cast off, they still possess great tenacity of life, sufficient to enable them to find entrance to other persons, and so reproduce themselves unceasingly.

And there is yet another disease, the evil of which cries, if possible, yet more loudly from all the land. The pale demon tuberculosis stalks unchecked and almost unchallenged by our "fair young knight, sanitary science," while our loved ones here, there, and everywhere, are falling by hundreds and thousands before this fell destroyer. And we stand helplessly by and feebly try this remedy and that, "hot air and cold, dry air and steam," germicides and tonics, while the fearful mortality is only lessened. And all the time the germs that produce the disease are being scattered broadcast without let or hindrance by way of an attempt to destroy them at the point of their greatest production, the *sputa of the consumptive*, which is cast upon street and pavement, in car and carriage, at home and abroad. And as the matter of the sputa evaporates, the germs are left in an environment that is for them most excellent. Liberated by the evaporation of the matter, they are left dry in the atmosphere, to be carried about by the winds of heaven, to be inhaled by all who come near where the consumptive has gone. Each consumptive thus becoming a center of infection sufficient to contaminate the air of an entire community. Innocent of a wish to harm any living being, they carry with them the seeds of death, often bringing destruction to loved ones who are in close contact with them.

It is no doubt true that these tubercle germs can not multiply or undergo any further development outside of the human or other animal organism, but in dry air their vitality is maintained for months or years, and when the expectorated germs or their spores again find entrance to human lungs with the contaminated air they are in perfect condition for growth and development and humanity pays the penalty of blighted lives, saddened homes and early death of many thousands of victims every year to a disease which is much more easily prevented than cured.

When we remember that fifteen persons out of every one hundred born in the world die of tuberculosis and then remember that if we could prevent this parasite, the tubercle germ from entering our air passages, there would be *absolutely no consumption* (no matter what the family history.) The necessity for earnest, intelligent action upon the part of sanitarians and especially of health officers becomes strikingly apparent.

It is true the problem to be solved, if we are to prevent the spread of this disease, is a great one. But the results to be secured are immense and world-wide and worthy of the greatest effort.

In view of the fearful mortality of this disease (one-seventh of all human beings dying from it), I believe it to be the duty of the State or general governments to clothe their sanitary officials with power to require that all known consumptives should expectorate only in vessels that can be kept closed (for instance wide-mouthed, glass-stoppered bottles), and that consumptives should keep constantly by them these bottles and always use them, and the sputa which accumulates in these bottles should be destroyed by fire. To be sure this would be some trouble to the unfortunate victims of this direful malady, but surely the end to be gained is worthy the trouble. Indeed the patients owe this much to their *own friends* if not to the world at large. And at least one thing more the rule should require that all animals of whatever kind that have tuberculosis should be killed and burned or otherwise safely disposed of.

WHAT WILL THE HARVEST BE?

 BY H. V. BROWN, M. D., PORTLAND, IND.

This question confronts every man, woman and child in the State of Indiana. According to the statutes of this State some persons can practice medicine whether they have qualifications or not. With the ten-year clause on our statutes many persons located in this State for the reason that other states enacted laws that dropped them out. Yet some of our ten-year practitioners are very well equipped in the profession. Now, when the General Assembly of the great State of Indiana next meet, will there be laws enacted, or the present law so amended, that the illiterate frauds will be left out? Must our State continue the law regarding the medical practice act on her statutes? I will first give reasons why the ten-year clause should be amended. First, the majority are those who read medicine with some practitioner years ago. Some read three weeks, some actually three months; then located some place in Indiana, put out a sign, some medicine in stock, getting an old pair of pill or saddle-bags (new ones would not do—they would look suspicious), some old books, and a very few at that. Then they were ready to tackle the worst case of malaria that ever racked the bones of the Hoosier on the banks of the placid Wabash, or the quaggy lagoons of the Kankakee. What is the result of their work? Their armamentum is so limited that often the patient succumbs to the disease for the want of medical aid in the proper channel, or the last resort some reputable physician is called, after the patient has called his friends to his couch and expressed himself in his future hope, and says, "Farewell, vain world, I'm going home." The reputable physician is too late, only to report a death to the Secretary. I know some ten-year men with whom you can not exchange views on medicine with them, for they have none. Some can not read their mail sent to them. One man here under the ten-year clause has not a medical book to his name that I ever saw, and I have been in his office several times. His stock of literature consists of an almanac and two or three medical journals sent to him as samples. Not an instrument in his shop, only a pocket knife, not even a thermometer. Yet such men practice medicine in the great State of Indiana. Now you will say, what is the remedy? How are we to get rid of such men? Do like Uncle Sam; have the State Board of Health appoint three reputable graduates to examine the ten-year men and charge a fee for their labor. The questions to be submitted to the board appointed by the State Board on the subjects pertaining to medicine as graduates have to answer when they pass their examination in college. If they can not stand the racket then go out and die. Some would never vote the Republican ticket again; the Democrat would then leave his party; the candidate would then turn Granger and vote the People's ticket, or hoist the red flag and cry "blood! blood!" What a howl. What a delegation would go to Indianapolis to defeat such legislation. Bring up the three-year men in same way, and in a few short months our reputable medical colleges will have larger classes, and the ten-year men will go to the woods. Now, what are we going to do with those diploma mills? Some have charters from the great State. The principal requisite for some diplomas is to pay your money and get your sheepskin. We have five in this county who showed their diplomas to the Clerk of the court and received

license from them. They should be suppressed at once by some act of the coming Legislature. They are quacks of the worst class, and if you tell them their credentials are not good you only raise a breeze for your trouble. Out of forty-three physicians in this county one year ago fourteen should go before a board of examiners.

"What will the harvest be?" Can there be a legislative body able and willing to enact laws that will raise the standard of medical education in the State of Indiana? Must the people of the State be imposed upon by such men as I have shown just in one county? Let us have the three-year men in school or pass from the practice. Don't say this legislation is for only a few, but be honest and let the people of Indiana have a class of physicians up with the times. Sift the mass by legislation and let the illiterate drop through or hustle to the front. When the great general was about to start on his march to the sea he sifted his ranks, even to those who did not want to see the elephant were ordered out and back. Now, if some reader thinks this too strong, let him step out. You who claim to be doctor because two persons knew you tried to practice ten years ago, step up like little men, and be men, step higher. Pin on your office door, "Gone to college, back next spring," or get to work and try to pass examination. Be on the alert and assist to raise the profession in the lovely State of Indiana. The State laws provide for a Superintendent of Public Schools, and each county has a County Superintendent. The State laws also provides a State Board of Health. Now let us insist that more power be given to the State Board of Health, and this power be disseminated throughout the counties. Have a Board of Examiners in each county and a list of questions from the State Board every three months, so that each ten and three-year man can have a chance to be examined until he has passed, by paying a reasonable fee to the examiners, and a certain per cent. of fees go to the State Board to assist in its efficiency, and the traveling cure-all come before the county boards before he is allowed to prescribe in that county. Call in the men that are in the practice under diplomas from disreputable colleges and have them to stand examination where they locate. The fee should be not less than \$5 for each examination.

The poor school teacher until he can pass a certain grade as a teacher must stand the examination every twelve, eighteen or twenty-four months. The State should not discriminate between the common school pedagogue and an assuming physician without credentials. The teacher must have his license from merit and qualifications; the ten-year doctor has his license because two persons said he tried to practice ten years ago. "O consistency, thou art a jewel!" Solons of Indiana, you do not want a teacher to instruct your children that is disqualified by law, and you will not have it so. Then why do you discriminate in favor of the physician? When your family is suffering from disease, or bones are broken, you want the best physician. It may be that your older brother is a ten-year man. You must call him, because he is your near friend. You do not know his qualifications. Perhaps your children pass away. The preacher does the hiding theme and tells you it is the will of kind providence that your little ones are called away, and so mistakes are covered by the minister and God is to blame for their death. Certainly the old Esculapius did his best.

"What will the harvest be?"

ETIOLOGY OF SPECIFIC DISEASE.

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If, in the present paper, I take issue with any of its readers in regard to recent or novel theories relating to the proximate causes of our most important diseases, they may be assured that it has been done with all sincerity, and with the kindest feelings for those with whom I may differ. The writer does not wish to be considered as actuated by a spirit of obstinacy, or unreasonable skepticism. Indeed, it is so much easier to accept the dictum of others, or to shift the responsibility of our views onto those who set themselves up as authority, than to formulate the lessons of our own observation and experience, so much more convenient to accept the thought of others, than to think for ourselves that natural indolence protests against the sacrifice. In medicine, as in all other pursuits of life, we are more inclined to simply acquiesce than to contradict, and usually there is so little encouragement to do otherwise that we rarely wish to intrude our own opinion, but infinitely prefer that others may take the lead and we will follow, however fallacious and misleading such guidance may prove. In the language of Hand-Field Jones, plagiarism and mimicry, are such prominent features in our lives that their presence might almost be quoted as an argument in favor of our evolution in past ages from *simian* ancestry. Hence, it may be said to-day, as in the past the greatest bane to medical progress is slavery to so-called authorities, and that one of the greatest hindrances to the acquisition of real knowledge is a blind reference to great names.

Asking your pardon for these introductory and somewhat irrelevant remarks we will now call your attention to the subject of our paper, namely, The Etiology of Specific Disease. By specific diseases is meant certain maladies possessing distinct characteristics, and which are not only engendered by special causes, but are supposed to be incapable of development without the application of a so-called specific cause for each disease respectively. Such, at least, is a strict definition of the phrase "specific" as warranted by the phenomena of infectious and inoculable maladies. According to our text-books there are 1,146 diseases which affect mankind, and require the study and attention of the physician, but from this extensive nosological list, less than twenty-five diseases are to be reckoned as belonging to the class under consideration. Yet these are known to cause nearly two-thirds of our total mortality. Medical history informs us that many of the pestilential maladies which scourged the world in past ages belong to this class and far exceeded the mortality of any which now prevail. Indeed, so great was the special increment of their spreading power and malignity that as *Niebuhr* has shown they not only decimated fleets and armies, but influenced the fate of cities and empires.

On the great plains of plague-stricken Asia, centuries before the Christian era, the query: "Shall such ills come by chance?" was then answered—

"Like the sly snake they come
That stings unseen; like the striped murderer
Who waits to spring from the Karunda bush,
Hiding beside the jungle path; or like
The lightning striking these and sparing those,
As chance may send."

—*Light of Asia.*

Shall the intelligent physician of to-day meet this problem with no more rational interpretation than the ancient Buddhists in the earliest dawn of the world's history? Has the acquisition of long experience or the accumulated knowledge of the past thrown no light upon the cause and prevention of the maladies under consideration? In answer to this it may be said that the proximate cause of "specific" disease is now as it has ever been one of the most puzzling questions with which the human mind has had to grapple. It can not yet be said that we have positive knowledge as to the specific poison, if we may so call it, which produces scarlatina, diphtheria, yellow fever or cholera. The chemist can not detect in the atmosphere the cause of those infectious diseases which spread only through this medium, or chiefly in this way, and to assert that he can with certainty detect any peculiar substance in the blood of the most pestilential malady, that is its positive etiological factor would be a statement in advance of the facts of exact science. Neither by the microscope, nor by the minutest chemical analysis can we distinguish the pus globule of small-pox or of syphilis from the most laudible pus of the surgeon. Nor has the most delicate tests as yet shown any thing especially distinctive in the saliva of a rabid animal by which a specific disease of this class is communicated so certainly and positively by direct contact. The *agens morbi* of these diseases in our present state of knowledge is still an unsettled problem. But since it has been truly said that the "curse causeless shall not come" some explanation of the etiology of our specific diseases, like Banquo's ghost will not down, hence modern physiological, pathological, microscopic and chemical research has led to the presentation of several novel, and plausible theories to account for the proximate and specific factors which give rise to the development of the diseases known to be of infectious or contagious character. Before their consideration, however, it may be said that it seems impossible to explain the development of any specific disease either *exopathic* and *endopathic* unless there be a recognition of certain predisposing causes of such maladies. We refer to pre-natal, conditional, and functional influences. There can be no reasonable doubt that some of the so-called specific diseases owe their origin mainly to a hereditary transmission of a proclivity to such disorder. This is notably true of tuberculosis or it may be supposed that the inheritance lies in the tissues or tissue elements predisposing to certain diseases in certain families. In the spreading of epidemics, contagious and personal, susceptibility may be factors in a partly *conditional* sense. Influences which the old authors called "atmospheric," the various direct and indirect influences which relate to the normal succession, and occasional abnormality of seasons in respect to the isolation of our planet and of the temperature and humidity of air and earth are perhaps generally too vaguely regarded as elements of interest in the present question, but are possibly factors which no one who tries to solve these problems should omit from scientific consideration. Again, failure in the function of the lungs, the liver, the intestinal glandula, the kidneys and the skin to eliminate the *waste products* of the system must be regarded by the physiologist as one of the most potent predisposing factors in the production of every form of zymotic disease. Science is more and more teaching us that the "survival of the fittest" is applicable to specific disease, and that the victory will be on the side of the attacked in direct proportion to the normal condition of all the bodily functions, and that the factors mentioned not only favor the development and intensity of such diseases, but that without such influence their establishment would often be impossible.

The theories of the proximate and specific cause of specific diseases may now be noted in the order of their popularity, but inversely as we believe with respect to their true ethological import. We refer to the *bacterian* theory, the *bioplast* theory, the *chemico-physical* theory, the *nervo-glandular* theory, and the theory of *perverted vital force*. The first hypothesis attributes specific diseases to the agency of microbes or minute living objects. By most authorities these are all classed in the vegetable kingdom, and might be termed microphytes of the fungous order. By some they are dominated parasites. They are supposed to operate by producing changes in the structures affected—the blood, the cutaneous and mucous membranes, the cellular tissue, and glandular organs of a destructive character, deranging their functions, disturbing the processes of nutrition, of circulation, of calorification and secretion. Fever, loss of appetite, emaciation, prostration of the muscular and nervous forces being the usual results. Their mode of action suggested by the belief that they are living objects, is that by enormous multiplication they may act mechanically through their bulk, obstructing the capillary circulation, and by pressure on solid tissues cause their gradual destruction by robbing the blood of the pabulum used for growth of the mycophytes, thus effecting emaciation by spoliation, and developing fever by conversion of molecular motion into heat, and deranging secretion by mechanical intrusion in the glandular structure; also engendering neurosial affections by similar action on nerve structure.

The discovery of the dependence of alcoholic fermentation upon the presence of the yeast plant (*saccharomices cerevisia*), and the general resemblance between the symptoms of contagious maladies and the processes observed in the fermentation led to the use of the terms *zymosis* to express the action, and of *zymotic*, to express the character of all those diseases which microbes in general are supposed to give rise. But all such views for the present must be largely speculative. There are many points of difficulty requiring to be more fully illuminated by careful observation before the bacterian theory becomes an established doctrine in etiology. Many of these difficulties have been well formulated by Prof. Hartshorn, of Philadelphia, and may be expressed in part, as follows:

1. Throughout all the investigations which have been made, or likely to be conducted, there remains the extreme difficulty, if not impossibility, of total separation between the microbes themselves and the matter of the vehicle in which they exist, such as blood virus, vitiated secretions, artificial culture material, or whatever it may be. All the effects ascribed to the bacteria, except their proliferation and mechanical intrusion, may, with equal propriety, be attributed to the toxic action of a portion, however minute, of the soil in which they have lived, whose modifications must be coincident with those which they undergo.

2. The absence of the characters belonging to definite organisms in the easily studied virus of small-pox and vaccinia is presumptive evidence against the probability of such organisms being essential to the causation of other enthetic diseases.

3. Bacteria are rarely seen in the incipient stages of disease, but after the blood has become impoverished, the secretions deprived or morbid products are undergoing decomposition they are found most abundant, and are found most numerous in materials of a septic or infectious character after their period of toxic intensity has passed by.

4. Bacteria have been, however, sometimes abundantly discovered in healthy bodies upon the various mucous membranes, in the blood and it is said in countless number in fecal discharges without any specific disease following.

5. Suppuration may be produced without the presence of minute organisms of any kind. Bacteria have been found under Lister's anti-septic dressings with-

out suppuration following. Pathological investigators (Paul Bert and Rosenberger) have destroyed all the microbes in a septic fluid and yet found it to retain its poisonous quality. Various elaborate investigations have proved that fatal septic poisoning can be produced in animals by the products of decomposition without the presence of living organisms, and experiments have shown that normal blood, when deprived of oxygen, in the absence of micro-organisms, may acquire septic properties, and also that septicaemia may be induced by the injection of free fibrin ferment and other substances into the blood in the absence of such minute organisms. The same condition has also been produced by the subcutaneous injection of filtered saliva containing no microbes.

6. While Klebs and Koch maintain the definite *specificity* of each minute microphytic organisms, on the contrary, Billroth, Burden, Sanderson and others assert their mutual convertibility according to the influences of environment, and Pasteur, Wood and Formad report experiments making it appear that modification by culture is possible, converting an innocent into a malignant parasitic organism, or a death-producing microbe into one capable only of causing a transitory and not dangerous local affection which, nevertheless, secures to the animal thus treated immunity when subsequently exposed to the deadly infection. But in none of these cases is there reported any morphological change, whatever, in the bacilli or micrococci experimented with; their capacity of reproduction through several generations being retained.

7. Other points of objection to the bacterian causation of disease relate to their specificity. While it may be conceded that like produces like is a rule of nature, and that different forms of bacteria may reproduce themselves, it does not necessarily follow that they can reproduce the disease which they may accompany. That disease may be propagated like plants and animals, by means of a peculiar form of these organisms would require the recognition of disease as an entity and not a physiological perturbation, but the analogy is so absurd and the assumption so unwarranted as to need no argument for its refutation. While this theory requires the belief that each specific disease is produced by a certain variety of these organisms and no other, it fails to explain *how* and *why* they are causative of a special disease or of immunity against subsequent attacks. If they act as a specific cause of a specific disease by their enormous multiplication in a mechanical way, through their bulk obstructing capillary circulation, or by pressure on solid tissues causing gradual destruction (as in tuberculosis), this is a property that is not confined to any particular form of such organisms, but is common to all of them. Then why should one particular variety engender one disease and not another, and why should they not continue to produce identical results as often as they gain entrance into the system.

It is held by Prof. Jaccoud and others that the bacteria of infection are indistinguishable from harmless ones except by their effects, and that as the liquids inhabited by them are frequently infectious, they are therefore merely a medium through which contagion acts. In some instances becoming so infected themselves as to transmit the property through several successive generations. Again, some observers attribute the symptoms of many acute infectious disorders to rapid development of poisons similar to vegetable alkaloids by bacteria in re-molecularizing the normal fluids. Others hold that such animal alkaloids are constantly produced in the living body by albuminoid decomposition without such agency, and that the general function of minute cryptogamic organisms, when present, is of a beneficial or conservative nature in re-appropriating the product of organic decay.

Analogy in nature renders this scavenger theory more probable *per se.* than that which holds them to be destructive parasites or poison-producers in the bodies which they may inhabit.

We may next briefly consider the vital germ theory of which Lionel Beale is the chief exponent. Dr. Beale, than whom no greater micrologist has ever lived, uses the term *bioplasm* to designate the physical basis of life and growth. This consists, according to his views, of separate particles of less than $\frac{1}{1000}$ of an inch diameter originating in the blood, and designed for the nourishment and growth of all the tissues of the body. They are described as soft, without color or structure, and enclosed in a colorless capsule, through which liquid pabulum passes for their growth. New bioplasts are formed by division of mature ones, and the new ones continue to grow by imbibition until they divide or contribute to the formation of solid tissues. *Microphytes*, with an average diameter of $\frac{1}{1000}$ of an inch, are considered by him as the lowest form of bioplasm, existing in all the fluid and solid tissues of both plants and animals, as well as in all kinds of mineral substances, and under all meteorological conditions (though dormant under some conditions of temperature and desiccation.) Being *omni-present*, and, as he believes, indistinguishable from each other by any precise physical characteristics, he denies their relation to disease of any kind. Contagious diseases are attributed by him to degraded or perverted bioplasm descended from original healthy bioplasts. These constitute what he terms "disease germs," which have property of self-multiplication like healthy bioplasts, both within the diseased body and in any healthy susceptible body to which they may gain admission. These contagious bioplasts are extremely minute, having a diameter less than $\frac{1}{100000}$ of an inch, and though possessing "specific" characteristics for every disease, one can not be distinguished from another, either by the microscope or by chemical analysis; neither can the healthy bioplast be distinguished from the diseased by any tests except its effects. The disease germs referred to in this connection become noxious only after entering the blood and then passing into the solid tissues and secretions. According to this investigator, their multiplication in the body always elevates the temperature, and this may continue after the death of the victim, and that fever is due to this process, and not to oxidation of tissues. Death being the result of change in the composition of the blood and derangement of capillary circulation. Beale's theory of migrating or transplanted bioplasts in the writer's opinion contains an element of truth, but has thus far received very little support besides that of its distinguished author.

On the supposition that *disease germs* are only abnormalities or deviations from healthy bioplasts which may be detached from one body and planted while yet retaining vitality upon another, and which may there undergo changes more or less morbid and destructive to the individual by whom they have been received, we certainly have a more plausible explanation of the transmission of contagious disease than that which is claimed by bacteriologists.

We will now call attention to the *chemico-physical* theory of Liebig, which embraces the doctrine that the *materia morborum* may consist merely of inorganic elements or compounds which, by entering the body and acting as chemical poisons, engender specific diseases, and which affirms that the action of a *virus* is not essential to the development of a *zymosis*, or fermentation in the human economy. This hypothesis has been more clearly expressed in the phraseology of the late Dr. Snow, of London, as the theory of *continuous molecular change*. Chemists have defined this change to be decomposition by contact, or the action of presence. An

illustration of this law is the power which small quantities of certain substances possess of causing unlimited quantities to pass into the same state. The phenomena of crystallization, the molecular motion that takes place in the operation of skin grafting, the diffusion of heat from molecule to molecule, or the extension of a flame from a burning body to combustible material within its reach may be cited as physical instances, and analogies of the operation of this law. Hence, if a decomposing organic molecule is introduced into the human body, by this law of catalysis or induction it imparts its motion to other molecules with which it may come in contact.

The processes in fermentation, putrefaction, septicaemia and the multiplication of small-pox, or syphilitic contagion from the smallest inoculation in the human body are accounted for in a similar manner. Against the necessity of the action of minute living organisms to produce these morbid processes, the advocates of this theory urge that the above named changes, and many others like them, are produced in the absence of such organism by chemical agents formed in the body, such as *leucomaines* and *ptomaines*, those physiological and putrefactive alkaloids recently investigated by Vaughan and others, and that inorganic substances may develop such changes similar to the action of sulphuric acid when it changes starch into sugar. In support of this doctrine it may be asserted that the bacterian theory that every particle of contagious matter is (at one time at least) a living organism, and that only such living organism reproduces their kind and the diseases which they accompany is one that loses weight as an argument in view of the natural history of small-pox and analogous diseases.

The Nervo-Glandular Theory. Of the origin of specific disease has been plausibly urged by Dr. B. W. Richardson, of England, and is apparently an outgrowth of his studies of the above doctrine of Leibig concerning fermentation and its relation to nitrogenous material. He was convinced by experiments that zymotic disease could be communicated from one animal to another by inoculation of various secretions. He also succeeded in producing from such fluids alkaloidal substances of crystalline structure. Inoculation of these in solution were followed by the same specific diseases as had yielded the alkaloids. (*Leucomaines?* or *ptomaines?*) Hence he concluded that any animal secretion might be made to yield a contagious principle to which he gave the name "septime," and the maladies thus engendered were designated by him as "septinous." The true *contagia*, in his belief, are therefore all of glandular origin, and the venom of serpents was suggested as a type of their source and action, the effect depending not on a multiplication of germs, but a catalytic influence, the agent changing other substances without undergoing change itself, and that the poison, therefore, is reproduced only in the infected and diseased body through its own secreting organs. He believes, also, that ordinary secretions may change character, and become poisonous without previous infection. For example, the exudation of ordinary peritonitis may give rise to puerperal fever, and typhus fever may be produced in overcrowded apartments by absorption of animal exhalation, and in this way contagia of various kinds may constantly arise *de novo*. In furtherance of his theory, Dr. Richardson emphasises the fact that the number of separate communicable maladies has a close relation to the number and character of the secretions. As examples, hydrophobia is derived from the saliva of rabid animals; glanders from nasal mucous; enteric fever is traced to the intestinal mucous glands; diphtheria to the mucous glands of the throat, and scarlet fever to the secretion of the lymphatic glands, but admits that in some instances the blood

corpuscles become the seat of the catalytic change. As Richardson maintains that communicable diseases may arise without intervention of contagious matter, he supposes that the virus may arise through previous impressions upon glandular organs, and refers the origin of such cases to fear or anger, or other emotional disturbance when no mode of communication can be discovered. In favor of this hypothesis much might be said.

It is now known that some of the most remarkable pathological effects may be artificially induced, either by drugs, the precisely localized and measured action of heat and cold, or by other agencies acting upon the nerve centers in the brain and spinal cord. And since it is admitted that the brain is not only the instrument of the mind, but that it presides over and contracts the functions of all the other organs, its own disorders therefrom can hardly fail to affect them. Strong mental emotion may not only suspend or pervert particular functions, but is even capable of destroying life by arresting the action of the heart. Sudden mental worry may excite dangerous interference with digestion or start an abnormal cardiac rhythm. Mental shock can check or increase the action of the kidneys, and in fact affect all the secreting or excreting organs of the body. The influence of continued mental anxiety and the pernicious effects of habitual grief upon the nutritive functions are plainly marked. Under its corroding blight the skin loses its freshness and grows dry and yellowish; owing to derangement of the liver the bowels become confined, and their habitual constipation is apt to be followed by absorption of fermentative and putrefactive gases and other noxious materials, giving rise to fecal toxicemia with all its consequences, and thus not only by reflex influence of local irritation, but direct influence through the blood, the vicious circle is completed by the further induction of disease of the brain and nervous system. Anger often brings on a convulsive attack, and insanity frequently follows close upon exaggerated mental effort, and especially upon violent mental emotion, whether of terror, grief or joy. The principle of moral contagion can not be denied. The mind is affected by imitative influences. Thus chorea is excited in some individuals by watching choreic movements in others, and a single hysterical patient may arouse in others symptoms almost identical with her own, while the direct influence of the mental state upon existing disease and in governing the susceptibility to others or favoring their development is of the most potent character. For evidence of this influence in the genesis of specific disease the reader is referred to that most interesting book of Dr. Tuke's, entitled, "Influence of Mind Upon the Body." Apropos to this subject are also the recent remarks of Sir Joseph Fayer, at the sanitary congress at Brighton, England, with regard to the expected invasion of the country by cholera. After denouncing quarantine and cordons as antiquated, worn out, and obsolete devices, he urged that the true way to protect ourselves from this disease is to see that our homes are clean, that the water we drink is pure, and the food we eat wholesome, and above all else to *keep our minds free from panic*. A panic state implies a disorganized vitality, and its influence in aiding the development of the class of diseases to which cholera belongs there can be no doubt.

GENERAL CONCLUSIONS.

Theory of Perverted Vital Force. We must be somewhat brief in presenting the following conclusions as to the etiology of specific disease, as our views have been already emphasized as occasion occurred during our argument. It now

remains for us to deduce several general facts which may serve to harmonize all of the theories presented, conceding to each its due importance, and out of all endeavor to construct one of our own which may serve to show how, and why communicable diseases are made *specific*. The advocates of the bacterian, the bioplastic, the chemical and of every other theory of zymotic disease unanimously concede the fact that the presence of nitrogenous matter in a decomposing or readily decomposable state affords the best possible *pabulum*, either for the development of microphytes, the infection of bioplastic elements, the elaboration of animal alkaloids, or for the action of ferments. Hence a *common condition* which all those agencies require for their action in the production of specific disease is the presence of an excess of such pabulum in the blood of the individual attacked. Again, a careful study of the foregoing investigation as to the cause of the diseases under consideration certainly teaches that we must be on our guard against ascribing a specific etiological influence to the various forms of vegetable micro-organism. For in certain cases these may have been in the first place non-existent, as when such a disease has been "autogenic," and in no sense a derivative of antecedent disease of the same kind. This caution is especially applicable in regard to such an affection as erysipelas, which, although contagious, is also, on very good grounds, judged to be generable, especially during certain states of lowered health, induced by renal disease and some other visceral affections. Though not so positively known it is by many deemed probable that a similar caution may be necessary in regard to more general contagious affections, such as diphtheria, typhoid and typhus fevers and cholera, which, though certainly infectious, may also be autogenetic. Among these diseases we might still mention several others which, although their ordinary or normal mode of spreading is by contagion, yet beyond reasonable doubt do sometimes arise spontaneously. We refer to such maladies as scarlatina and yellow fever, gonorrhoea, rabies and glanders. The two last, in fact, being only of spontaneous origin in the lower animals, from which they are communicated to man.

It would appear from the conclusions of Bastain and others, that in those complex, prolonged and continuous morbid processes constituting the phenomena typical of some particular infectious malady, that at some stage of this complicated chain of processes, and some, where (that is in some organ or tissue, or in the blood) certain organisms may arise *de novo* and are not to be regarded as direct descendants of pre-existent organisms any more than we would regard the pus corpuscles met with in a case of purulent ophthalmia or gonorrhoea as direct lineal descendants of those which may have taken part in occasioning one or the other of such diseases. But admitting that the doctrine of *heterogenesis* is established and that of *archebiosis* or spontaneous generation is disproved by the experiment of Tyndall, it is by no means clear that the assumed mode of operation of microphytes in the causation of disease is the true one, or that their influence in the transmission of disease is not simply that of carriers of contagion the same as the non-vitalized chemical compounds of Liebig, the leucomaines, and ptomaines of Vaughan, or the cast off and altered glandular secretions and tissue elements of Richardson or Beale. It is not yet possible to say with regard to metabolic contagion what is the *essential constitution* of contagious matter, or what is the intimate nature of the transforming power which the particle of such matter exercises on the particles which it infects. Nor are we able, by actual demonstration, to say that contagion is a *material substance*. We know that the ancient philosophers in investigating the nature of heat regarded it at first as a kind of subtile matter

which insinuated itself into the substances of bodies and resided there with greater or less manifestation of its presence, but heat is now regarded and proved by scientific observers to be, not a material substance, but simply a *condition of matter*—a phase of force, or molecular motion—and from the nature of its action *contagion* like the *force calorific* is, in the writer's opinion, a mere condition of matter and not a *material substance*.

As regards the question of the form of force which may explain the transforming power of the contagion of specific disease, science is still ignorant. Yet expert chemists express clearly enough the conviction that there exists a certain great unit of force in nature which lies beyond their power of analysis, measurement, or even of definite nomenclature. But in that most interesting, yet most difficult and hitherto almost uninvestigated branch of chemical dynamics, we are supposed to have our nearest clew to the scientific problems connected with the specific etiology of disease. Any theory which tends to explain the *rationale* of the processes under consideration must recognize the existence but perverted operation of the so-called vital forces. The theory which we present assumes the identity of the physical and vital forces. The physical forces embrace magnetism, chemical affinity, heat, electricity and motion. The vital forces are assimilation, combustion, animal heat, nerve force, and muscular contractility. All scientists now concede the correlation of the physical forces, that they are all convertible the one into the other, and that force, like matter, in any form can neither be created nor destroyed, and as presented to us in the universe, they are both indestructible and inseparable, perpetually existing, and unchanging in quality, yet ever changing in form. The intimate nature of force, however, is the greatest mystery of all unrevealed phenomena, visible only in its effects as manifested to our senses, it becomes at once an unknown and unknowable power, transcending all human knowledge and conception. We can only judge of its presence, therefore, by the peculiarity of its action, and the effects which it produces. If we accept the teaching of modern science, all matter is the vehicle of change, motion the result of change, and *force* the cause of change. Life, as we understand it, depends upon the presence of a material substance operated upon by force, resulting in movement, and the harmonious interactions of these conditions when applied to the animal body not only constitute life, but health, while its derangement as surely eventuates in disease and death. According to the demonstrations and conclusions of modern investigators of physical science, the *vis viva*, or life force, is simply the combined influences of the physical forces which are constantly changing in form during the various vital processes; the supply and action of the same being maintained by the food we eat, the fluids we drink, and the air we breathe. Let us suppose, for illustration, that the nutrient fluid charged with oxygen is placed in an *electro-positive* condition, at the same time the tissues are in an *electro-negative*, or magnetic condition, by which assimilation or chemical affinity is induced; this involves oxidation, combustion and molecular motion. Molecular motion is converted into (animal) heat, and heat is converted into (animal) electricity, or nerve force, and nerve force induces muscular contraction or mechanical motion, which in turn serves to assist and perpetuate the operation of the other manifestations of force, in that it maintains the respiratory function, contracts the heart and arteries, propels the blood to all parts of the system, and thus supply tissue waste and equalize temperature, as well as control the various secretory and excretory functions of the body.

Such are the different manifestations of the so-called "vital forces," the harmonious and normal operation of which constitute life and health, but when perverted will not only occasion disease and disorganization, but death either local or general, as conditions may determine. For example, if the blood from any cause becomes contaminated or deficient in oxygen, the forces governing nutrition, such as assimilation and combustion will be perverted in their operation, waste materials, or *materia-morbi* will be developed, which may eventuate in morbid effects, either as irritation of nerve centers governing heat production, or local irritation exciting inflammation of various tissues or organs, as well as malnutrition and disorganization of various degrees and variety according to the extent of toxicæmia, and the functional activity of those organs provided for elimination. Or the *materia-morbi* thus accumulated may remain in a latent condition until equilibration is commenced by increased oxygenation, and this may augment the amount of animal heat within the body, causing fever, which may in its turn induce pathological lesions, varying in character with its intensity, ten degrees of which mark the difference between life and death. Although force can only manifest itself by molecular motion, yet it may exist in two general forms known as potential energy and actual energy. Force stored up in certain conditions of matter, as in the tension of the particles of an explosive compound, such as nitro-glycerine, or in combustible materials as wood, coal, and the food of animals, is known as potential energy, that is, power capable of being liberated for the production of effects. But when the nitro-glycerine explodes, the fuel is burned, or the food is oxidized in the animal body, the force they contain is given out in the form of effects produced, and the potential energy becomes actual energy, or in animal bodies, living force. Such is the nature of un-oxygenized material in the blood constituting an *agens morbi*, in that it represents potential energy, becoming actual energy, and capable of producing morbid effects when subjected to zymotic action.

Force acting upon different forms of material substance will manifest itself in different ways, as chemical affinity, combustion, electricity, etc. Also force in its different forms acting upon the same material substance may give to a multiplicity of effects, as quantity and local conditions may determine. But force of any particular form, whether physical or vital, operating in a certain direction, producing certain results, *tends to continue its action in that direction, and the production of the same results as long as conditions favorable to its action obtain.* Thus the molecular motion imparted to a conducting wire from a galvanic battery may continue for thousands of miles. A spark of fire may destroy a city, and so the smallest quantity of chemical or perverted vital force arising from the blood in a state of zymoses, and conveyed by means of its own elements, may set up the same morbid action in other individuals whenever their blood is of a suitable zymotic condition, and it is the operation of this law that gives us the *rationale of contagion*. But we find in the physical forces, so in the vital forces; as in the great laboratory of nature, so in the individual organisms that action is met by counteraction, and that force, however manifest, sooner or later tends to equilibration. For this reason galvanic batteries become exhausted, fires must be fed with fuel, and zymosis ceases, and disease ends in the affected individual, and in communities when the material suitable for its action has been extinguished. Strictly speaking, therefore, *contagion is a phase of perverted vital force*, and this morbid influence does not imply the agency of micro-organism any more than that of any other medium, vital or otherwise, which may serve to convey its action. The essence of contagion is not a material substance, nor does it necessarily require a definite agency

through which it must operate, but is simply a form of force as imponderable in its nature as heat, light or electricity. Specific only so far as it naturally tends to operate in the same direction upon the blood of another individual when it contains certain constituents of identical character with those upon which it has been operating in the blood of the infecting individual, which is likely to be the case when individuals and communities are alike subjected to the same general and special predisposing causes of disease.

In conclusion it may be affirmed and reiterated that the agency through which contagion acts is not limited to any particular form of mycophyte, nor to the bioplasts of Beale, or to the waste products incident to tissue metamorphosis, for all may serve as carriers of a perverted vital force. While the types and varieties of infectious disease may be determined by the impressions made upon the nervous system, but influenced by the condition of the individual with reference to his powers of constitution, age, susceptibility, weakened condition of certain organs or tissues from previous disease or tolerance from like causes. And where the initial factor is due to accumulation of "waste products," then also by the character and degree of the defective excretion, and the route or channel by which the vital forces attempt its elimination. And finally, since any of the elements hitherto described as factors of contagion are infected through defective excretion, it necessarily follows that the character of an infectious or contagious disease depends upon the variety or nature of that glandular excretion which is most defective, and as these infected elements are most prone to elimination through those glands whose defective function has produced the blood contamination, we are thus afforded the rationale of the glandular involvement of specific disease. And if any such morbid elements were still under the dominance of the natural laws of *elective attraction* which appropriates from the blood certain elements to certain tissues or parts of the body, or that normal *repellent force* peculiar to certain excretory glands, their *deposition* in these localities would be secured or their ultimate *elimination* (if the patient survived) through those glands and parts of the body identical with those from which they have been derived would be effected. And thus again would be stamped upon the disease its "specific" character.

MEDICAL, MEDICO-LEGAL AND SANITARY LEGISLATION NEEDED.

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Legislation is by no means a cure for all evils. On the contrary statutes in advance of public opinion may be hurtful to the very causes they seek to promote. Besides, much legislating upon any given subject is apt to bring confusion, if nothing worse. Again, weak and incomplete laws are not only hurtful as to matters they touch directly, but are often if not always vicious in tendency.

Thus a weak medical law is apt to prove an injury to the medical profession and the public as well. In proof of the foregoing the medical license law, now existing and in force, is cited. This act demands nothing of the medical practitioner but a license from an incompetent source, and in effect dignifies the quack and inferentially depreciates the learned and skilled of the profession.

Many persons without medical education are by this law raised to the standing of licensed physicians. By its terms any person who had been dabbling in salves, liniments, trusses, medical recipes, etc., etc., for a period of ten years prior to its passage, upon oath, supported by witnesses as to dates, have obtained licenses to practice medicine and surgery in all respects as fully as the most eminent of the State. The law is also too lax as to the sources of diplomas. It recognizes almost any kind of paper called a medical diploma. So, it is plain such and similar statutes are injurious in fact and tendency.

It may be claimed the act in question has driven some pretenders from the State, and has stimulated others to the point of obtaining their degrees. Admitting some have fled the State from fear of this measure, it must also be admitted their task of finding fresher fields for quacks than is afforded in this commonwealth, must have been and would now be a most difficult one. Admitting, too, that the law has aroused some to the necessity of graduation it is patent their degrees have usually been sought and found in the most convenient diploma-shops.

Thus have not only the medical profession and medical education been depreciated, but, being equipped by false and flimsy documents, inferior persons have been licensed to do such damage as only quacks in medicine are capable of perpetrating.

Coming now to the text, let it be clearly understood the medical profession needs not nor asks protective or fostering laws. Not made by statute the profession can not be maintained by the same. Physicians ask of the State nothing for themselves especially. They ask only such laws as will raise the standard of qualification for admission to their ranks, thus to protect the public and save themselves from humiliating associations.

The first and most essential step in the direction of a higher standard of medical education would be a rigid system of granting college charters. Under present laws any body of persons may institute a medical college in just so much time as it may take them to agree upon the chairs they are severally to occupy. Qualifications of the self-styled professors are not taken much, if any, into account. These men give no guarantee whatever, while the State empowers them to confer degrees that ought to be high and honorable. But no degree can be honorable unless its source be the same. Clearly, the State should insist that its colleges be based upon high and solid grounds.

At a notable meeting of physicians looking to the organization of a medical college in the city of ———, one of the would-be professors facetiously remarked: "We have the faculty, now bring in your students and we'll have the college." There may have been something of irony in these remarks, but at least one of the self-chosen regarded them seriously, as is shown by his following endorsement: "Yes, we have a faculty good as can be found anywhere, and all we lack is the money students will bring." These gentlemen spoke truly. There was in fact nothing in sight at that meeting but a faculty, and nothing of consequence has since appeared in addition thereto, nevertheless an institution there and then originating has issued its annual batches of diplomas with as much pomp and ceremony as have attended the graduation exercises of the most famous colleges of the world; and the pity is our State laws make no distinction between those who have been turned loose upon a suffering public from the former, and those who have received their high and honorable degrees from the latter.

Had the State been more exacting it is not entirely certain those persons joined in that and similar organizations would have been deprived of professional honors, but beyond doubt they would have earned their spurs at greater pains, and surely their graduates would have been better physicians.

Granting there are medical colleges of high standing in the State, it follows they suffer from the inferior concerns operating under charters equal in power, and from the same source as theirs.

A high standard of education can only be gained from teachers and colleges of high standing. The State should, therefore, insist upon qualifications and means of teaching, and reasonable guarantees of permanency, from those to whom college charters are granted. Besides this, the State should maintain a rigid supervision over her chartered institutions of learning, extending to careful and unbiased examination of graduating classes. A body of regents would doubtless be the most effectual supervisors. How, or by whom, such body should be ordained is left to future deliberations.

Decided steps should be taken for the better medical care of the poor, whether within or without the asylums.

There appears a wide-spread disposition on the part of officials to supply the wants of the poor as cheaply as possible. Theoretically this is right, but practically it is usually wrong. It is especially wrong as to the wants of the sick poor. It would be no less criminal or inhuman to send sour bread to the pauper than to send him a cheap physician, as is usual under the custom of farming-out the pauper practice to the lowest bidder.

It is not the deliberate intention of the officials to make inadequate provisions for their wards, but whenever they set themselves the task of hiring skilled medical service for such prices as the ignorant pretender may name, they head directly toward the rock of niggardly inhumanity.

Existing statutes making it possible for County Commissioners, and others, to force cheap and incompetent physicians upon the poor, ought to be unconditionally repealed. In their stead should be statutory obligations upon overseers of the poor to afford the sick not only good medical attention, but reasonable choice of physicians.

It would not be practical to extend such rule to patients in the public asylums, but a competitive system, under fixed liberal salaries, should be ordained for the employment of physicians in these institutions. This would secure such as ought to satisfy all; at any rate, it would be a fulfillment of public duty. But, as before intimated, there is no justice in the system of employing physicians for the outside poor solely upon the lowest bids. This latter system tends not only to the employment of incompetent persons, but it frequently results in the payment of money to those who render no service, and invariably in the withholding from some their just dues. It is, therefore, both inhuman and mal-administrative.

The medical offices in the various State institutions should be made more strictly professional and less administrative. The physicians in the asylums should be charged with medical and sanitary matters only. The manner of selecting them might be better, and their tenure of office should be fixed beyond control of the ordinary business management.

There should be strong laws regarding the dispensing of medicines and drugs, and strict enforcement of the same. Persons who dispense medicines and drugs should show themselves possessed of thorough knowledge of these substances, and none but physicians should prescribe in any case whatever except emergencies. It may be argued as wrong to forbid the use of what are called common or simple remedies without medical advice, but disease, real or imaginary, that can be overcome by mild means would better be left alone than touched by unskillful hands. Restrictions against self-prescribing, and the advice of meddling non-profes-

sionals, would save the innocent from many a pang, and curtail much useless expenditure. Admitting such restrictions might increase the demand for medical service, it is still maintained they would be in the interest of humanity and for common good.

It is conceded that plumbing, sewerage, etc., should be constructed under direction of skilled persons, to guard against poisons that kill from the outside; and certainly the inside of the body should be as carefully guarded.

Dispensers of medicines should be prohibited from refilling recipes, except upon medical authority. That which may good at one time may be seriously hurtful at another. Besides, the reckless custom of refilling receipts at the instance of the patient, or upon the suggestion of the dispenser, has, times without number, fastened the opium, chloral or liquor habit upon its too often utterly helpless victims. A bill proposing such prohibition as to recipes containing narcotics and other poisonous medicines, was before the Assembly of 1891, but being presented late in the session, it received little more than the attention of the House Committee on State Medicine, etc. It was also unfortunate in that its wise projectors did not follow it with any degree of activity. This criticism of the friends and projectors of the bill is here made solely as a suggestion for their future operations. It is to be hoped the body of druggists and drug store proprietors who originated that commendable proposition will not retreat because of their late fruitless skirmish, but that they will recruit against the next session by enlisting many druggists and others throughout the State. The public may not be quite ready for such an act, but with the leading druggists and most alert observers speaking favorably, it would not fail of general support if passed by the next Legislature.

A comprehensive record of every transaction in poisons should be required by law. Both buyer and seller should appear in such record. The need of the measure is obvious, and trusting this brief mention will hasten its passage, the matter is submitted without further suggestion.

It is well known, and has heretofore been officially admitted that the vital statistics gathered by the State Board of Health are lamentably inaccurate as to the records of deaths occurring in the several counties. This inaccuracy is not from lack of duty on the part of said Board, but is due mainly to the faulty and inoperative law which imposes upon medical practitioners the task of making death reports gratuitously. Without further contention it is sufficient to note that physicians generally deny the authority of the State to put upon them special duties other than such as tend to the preservation of public health, particularly when the task is laborious in non-professional details; therefore, the meagre and practically worthless death reports to the Board.

It has been assumed this paucity of reports is due to the timidity of physicians about reporting their fatal cases, but medical men are not so cowardly as this, besides none know better than they that the practitioner who has had no patients that are dead has few or none living.

Physicians are not slow to report contagious and infectious cases, as well as unsanitary conditions, and all matters dangerous to public health. They do this with or without statutory mandate, because they recognize the necessity and know full well the duty can hardly be performed by others, and because it is clearly within professional lines.

They also report births with commendable promptness, under the law in question, not because they deem it a special privilege to do so, nor because they re-

gard the announcement a favorable advertisement for themselves, as has been intimated, but because it is usually a pleasure to report a birth, and because the state of the household and other conditions attending the happy event are generally such as to render the collection of data comparatively easy. But easy as the duty is it should not be required of physicians to make birth reports.

The physician's time does not belong to the State any more than does that of the wood-chopper, and the former, in fairness, is no more bound to report the deaths and births occurring in his professional range than is the latter to count and return the chips produced by the ax he wields.

Viewing these reports singly the matter appears unworthy the attention given it herein, but considered in the aggregate it is readily seen no small amount of time and labor, and even some money, must be employed in making them; and from a standpoint of statistical value to the public, which, by the way, may be very great, it is clear the obligation as to the collection, returning and preservation of them, rests entirely upon the State, certainly not upon one class of citizens alone, but upon all alike. In short, it is public business and should be carried on by public officers at public expense.

Deaths and births should become of permanent public record in the counties wherein they occur. A glance at the subject will not fail to convince that such record could be of immense utility in the courts and otherwise. For instance, the State Board of Health could have access thereto, and thus obtain reliable data for the purposes of the health department. Such data can not be secured under existing laws.

It would be best to require Township Trustees to collect these reports and return them to the County Recorders for public record. Requirement of burial permits to be granted by these Trustees, and for parents to report the births of their children to the same, would put these officers in possession of the information necessary for the returns to the offices of public record.

The collection of these returns in the way indicated would not bear heavily nor in the least unjustly upon any one. A parent certainly would not regard it a hardship to announce the advent of his child, and doubtless the undertaker could be persuaded to add an extra expense item to his burial account.

The State should be put in possession of stated sanitary reports from all public and private buildings and places wherein persons congregate for any purpose or purposes whatever. This would include factories, churches, places of amusement, everything, in fact, from the "little red school-house" down to the State House.

The State Board of Health should be empowered to command these reports to be made through the County Boards. This would not necessarily require a single additional public officer, nor would any considerable extra expense attach. County School Superintendents and other school officers could readily afford the data relating to school-houses, seminaries, etc.; and other county officials could quite as readily furnish the proper reports for the asylums, jails, court houses and other public institutions—all, of course, through the County Boards of Health.

It is well known that many school-houses, especially in the cities and villages, are unsanitary in construction and from environments. The pretentious three-story high-school buildings, with their long flights of stairs, are abominable, though latterly a class of apologists have proclaimed the stairway an excellent field for physical culture. It will be a long time, however, before common sense will coincide with this "fad." In the meantime State authority should bring all school,

seminary and college buildings to a common sense level. In short, it should be enacted that all school buildings be constructed and maintained strictly within hygienic bounds. Doubtless such a law would be fully sustained not only by the public in general, but by the local authorities especially, who would thus be guided in the discharge of their official duties, as well as relieved of many unpleasant individual criticisms and responsibilities.

Under such a law the proper State authority would direct the construction, location and management of all school buildings, not omitting seats, desks and other important items.

A physician when called by the State to give expert testimony, to make post-mortem examination, or to render any professional service whatever, should be paid a fair professional fee, to be determined by the Court. To this end, section 504, Revised Statutes 1881, page 94, should be repealed. Under this unjust statute physicians have been detained in Court for weeks without the least compensation, though it must be set to the credit of many of the wisest judges that they frequently disregard it. An expert in Court is not an ordinary witness; he is an instructor of Court and jury as to matters of his profession, art, science, trade, etc., called to render particular service, not merely to relate a fact or facts. But this is all so plain the wonder is the objectionable statute survived the spasm of its conception, and further wonder the mockery has ever been allowed in any Court.

With this contention for full pay for the expert, it is as strongly urged that the servant should be entirely worthy of his hire. Not every one who appears in Court should be accepted. A medical expert, for instance, should be employed because of his ability to instruct the Court and jury upon questions involved, not because he may be shrewd and capable of concocting, mystifying and false theories, as lucre, bias or downright depravity may dictate. He should not only be able and honest, but his relations to the cause on trial should be such as to leave him entirely free from any preconceptions thereof, that is, he should be without participation in any professional attendance, or other particular pertaining to the case prior to trial and the preliminaries thereto. In short, the attending physician of any person alleged to have died from injury inflicted or poison administered by another, should not be allowed to testify as an expert; he should be limited to a relation of facts only. Finally, no physician, undertaker, or other person should inject into or in any way apply any embalming, or other active chemical substance to or about any dead human body in regard to which question as to the cause or circumstances of the death might arise, without legal permission so to do. The expert proper, and the post-mortem examiners, including the chemical experts, should be appointees of the Court, not employees of either side, or party in the suit, in particular.

Medico-legal considerations may appear somewhat inappropriate in a publication of the Board of Health, but there are good reasons why this acknowledged conservator of sanitary and kindred matters should have voice in legislation touching the medical profession, its most effectual and ever-ready collaborator.

LIST OF PHYSICIANS.

ABBREVIATIONS—R., for regular; E., for eclectic; H., for homeopathic; P.-M., for physio-medical; N.R., for not reported; "Basis of License:" D., for diploma; figures 3 and 10, for number of years' practice.

This list is furnished by County Health Officers, and any mistakes that occur in spelling of names, or omissions, are attributable to them.

The names of County Health Officers are printed in capitals.

Adams County.

Name.	Post Office.	School.	Name.	Post Office.	School.
Andrews, O. P. M.	Monroe	R. D	Hill, J. C.	Pleasant Mills	R. 10
Aspy, H. M.	Geneva	R. 3	Hughes, Alexander	Pleasant Mills	R. 10
Broyton, William R.	Geneva	R. D	Holloway, M. L.	Decatur	R. D
Bergman, Noah	Berne	R. 10	McMillen, W. W. P.	Decatur	R. D
Boyer, J. S.	Decatur	R. D	McDowell, Jacob	Geneva	R. 10
Beavers, S. D.	Decatur	R. D	May, O. T.	Monroe	R. D
Coverdale, J. S.	Decatur	R. D	Mattox, L. L.	Geneva	R. D
COSTELLO, H. F.	Decatur	R. D	Nuenschander, D.	Berne	H. 10
Clark, Chas.	Decatur	E. D	Roinier, Chas.	Monroe	R. 10
Darwin, T. T.	Decatur	R. 3	Sprunger, Peter A.	Berne	H. 10
Ford, Adam C.	Geneva	R. 3	Trout, D. G. M.	Decatur	R. D
Holloway, A. G.	Decatur	R. 3	Thomas, P. B.	Decatur	R. D
Harper, J. L.	Pleasant Mills	R. 10	Walser, J. A.	Linn Grove	R. 3
Haughton, Asa.	Linn Grove	R. 10	Ward, James B.	Geneva	R. D

Regular, 25; Eclectic, 1; Homeopathic, 2.

Allen County.

Adams, Horace	Harlan	R. 10	Hetrick, Jacob	Fort Wayne	R. D
Allen, Daniel M.	Fort Wayne	R. 10	Houghton, Loyd	Fort Wayne	R. D
Bartels, R. W.	Fort Wayne	E. D	Herman, Alex. D.	Fort Wayne	N. R.
Banks, C. T.	Fort Wayne	D	Heaton, C. E.	Fort Wayne	R. D
Barnett, W. W.	Fort Wayne	R. D	Harrod, Morse	Fort Wayne	R. D
Berg, K. Carl	Fort Wayne	R. D	Jones, J. H.	Fort Wayne	N. R. 10
Blade, Phillip	Fort Wayne	E. 10	Kesler, R.	Fort Wayne	R. D
Boswell, A. C.	Fort Wayne	R. D	Kryder, John L.	Cedarville	R. D
Boswell, A. J.	Fort Wayne	R. D	Lipes, R. F.	Heller's Corner	R. D
Bower, G. B. M.	Fort Wayne	R. D	Laubach, A. J.	Fort Wayne	R. D
Bowen, G. W.	Fort Wayne	H. D	Leonard, P. M.	Fort Wayne	H.
Buchman, A. P.	Fort Wayne	R. D	Lemon, Anna M.	Fort Wayne	R. D
Brudi, A. C.	New Haven	R. D	Lehmann, Anthony	Fort Wayne	H. D
Cary, D. B.	Fort Wayne	R. 10	Lipes, U. G.	Fort Wayne	K. D
Chambers, J. D.	Fort Wayne	R. D	Mentzer, Simeon E.	Monroeville	R. D
Coblentz, J. W.	Fort Wayne	R. 10	Magnus, C. W.	Fort Wayne	R. D
Carter, Wm. J.	Fort Wayne	R. D	Martiz, Christian	Fort Wayne	H. D
Cutshall, Geo. W.	Arcola	R. D	Metcalf, S. C.	Fort Wayne	K. D
Conelly, W. A.	Monroeville	R. D	Miller, J. E.	Fort Wayne	R. D
Deppeler, R. R.	Fort Wayne	E.	Myers, Isaac N.	Maples	R. D
Dills, Thomas J.	Fort Wayne	R. D	Myers, Herschel S.	Fort Wayne	R. D
Dinnen, James M.	Fort Wayne	R. D	MYERS, WM. H.	Fort Wayne	R. D
Enslin, William	Fort Wayne	R. D	Murphy, George	Leo	R. D
Engle, A.	Monroeville	R. D	McComb, William S.	Leo	R. D
Ferguson, W. T.	Fort Wayne	R. D	McCaskey, G. W.	Fort Wayne	R. D
Ferguson, W. G.	Fort Wayne	R. D	McCausland, J. W.	Fort Wayne	R. D
Gard, Brookfield	Fort Wayne	E. D	McCormack, T. H.	Fort Wayne	R.
Green, Frances M.	Fort Wayne	H. D	McCullough, T. P.	Fort Wayne	R. D
Greenawalt, Geo. L.	Fort Wayne	R. D	McOscar, E. J.	Fort Wayne	R. D
Gilbert, Charles J.	New Haven	R. D	Nieswonger, H. W.	Fort Wayne	R. 3
Greenwell, F.	Huntertown	R. D	Nieschang, C. C. F.	Fort Wayne	R. D
Gunther, J. W.	Harlan	R. 10	Null, Lycurgus	New Haven	E. D
Harris, Ella Miss	Fort Wayne	H. D	Omo, Joseph J.	Harlan	R. D
Harris, L. P.	Fort Wayne	H. D	Pierce, Jessie B.	Fort Wayne	R. D

Allen County—Continued.

<i>Name.</i>	<i>Post Office.</i>	<i>School.</i>	<i>Name.</i>	<i>Post Office.</i>	<i>School.</i>
Phelps, Whitcomb . . .	Fort Wayne . . .	R. D	Stemen, G. B. . . .	Fort Wayne . . .	R. D
Porter, Miles F. . . .	Fort Wayne . . .	R. D	Stulz, C. E. . . .	Fort Wayne . . .	R. D
Payne, G. W. . . .	Fort Wayne . . .	R. D	Sturgis, Lewis T. . .	Fort Wayne . . .	R. D
Proegler, Carl . . .	Fort Wayne . . .	R. D	Stutz, J. A. . . .	Fort Wayne . . .	H. D
Phillips, S. P. . . .	Fort Wayne . . .	N. R. 3	Sweringen, Hiram V. .	Fort Wayne . . .	R. D
Rauch, A. J. . . .	Fort Wayne . . .	R. D	Sweringen, Budd V. .	Fort Wayne . . .	R. D
Rosenthal, I. N. . . .	Fort Wayne . . .	R. D	Shutt, John M. . . .	Harlan . . .	N. R. 2
Rosenthal, Maurice I. .	Fort Wayne . . .	R. D	Switt, C. F. . . .	Harlan . . .	R. D
Ross, George . . .	Fort Wayne . . .	H. D	Seaton, John R. . . .	Fort Wayne . . .	R. 10
Ruhl, Wm. Dela . . .	Sheldon . . .	R. D	Sedd, Samuel D. . . .	Nine Mile . . .	R. D
Schilling, Carl . . .	Fort Wayne . . .	R. D	Traster, W. H. H. . .	Fort Wayne . . .	R. D
Siver, E. L. . . .	Fort Wayne . . .	R. D	Van Buskirk, A. E. . .	Fort Wayne . . .	R. D
Schultz, Frederick . .	Fort Wayne . . .	E. D	Wheelock, Kent K. . .	Fort Wayne . . .	R. D
Self, R. Dalton . . .	Fort Wayne . . .	H. D	Wheeler, Frederick . .	Fort Wayne . . .	R. D
Snow, Wm. D. . . .	Fort Wayne . . .	N. R. 10	Whery, Wm. P. . . .	Fort Wayne . . .	R. D
Smith, Joseph L. . . .	Hoagland . . .	E. D	Whery, Mary A. . . .	Fort Wayne . . .	R. D
Stemen, C. B. . . .	Fort Wayne . . .	R. D	Morley, George N. . .	Poe . . .	R. D
Stemen, G. C. . . .	Fort Wayne . . .	R. D	Young, John M. . . .	Fort Wayne . . .	R. D

Regulars, 81; Eclectic, 8; Homeopathic, 10; not reported, 5.

Bartholomew County.

ARWINE, J. S. . . .	Columbus . . .	R. 10	Holder, R. F. . . .	South Bethany . .	R. D
Allen, W. H. . . .	Waymansville . .	R. 10	Kincaid, S. F. . . .	Taylorsville . . .	E. D
Arwine, Lotta Ruth . .	Columbus . . .	R. D	Kent, C. V. . . .	Hope . . .	R. D
Butler, C. H. . . .	Clifford . . .	R. 10	Kennedy, S. Y. . . .	St. L. Crossing . .	R. D
Banker, A. J. . . .	Columbus . . .	R. D	Lawrence, W. M. . . .	Jonesville . . .	E. 3
Beck, W. H. . . .	Hartsville . . .	R. D	Mennett, O. H. . . .	Jonesville . . .	R. D
Butler, W. H. . . .	Columbus . . .	R. D	McLeod, A. J. . . .	Columbus . . .	R. D
Barr-ett, S. J. . . .	Columbus . . .	R. 10	McCoy, Geo. T. . . .	Columbus . . .	R. D
Biddinger, S. W. . . .	Wanesburg . . .	E. 10	Morris, S. H. . . .	Columbus . . .	R. 3
Banks, W. H. . . .	Waymansville . .	R. 10	Moore, C. A. . . .	Columbus . . .	E. D
Bernard, G. W. . . .	Taylorsville . . .	H. D	Norton, E. D. . . .	Petersville . . .	R. D
Beck, Flavius J. . . .	Hartsville . . .	R. D	Newton, W. T. . . .	Hope . . .	R. D
Banker, W. T. . . .	Columbus . . .	R. D	Roope, R. H. . . .	Columbus . . .	R. D
Carmichael, W. T. . .	Walesboro . . .	P. M. D	Rice, A. . . .	Columbus . . .	H. D
Cosby, Geo. O. . . .	Burnsville . . .	R. D	Richards, F. B. . . .	Taylorsville . . .	R. 10
Clark, I. S. . . .	Columbus . . .	R. 10	Regennas, E. G. . . .	Hope . . .	R. D
Davis, Jos. H. . . .	Azalia . . .	R. 10	Reynolds, S. H. . . .	Columbus . . .	R. D
Dickman, Fred . . .	Hope . . .	H. 10	Rains, G. W. . . .	Jonesville . . .	R. 3
Dawidson, G. N. . . .	Waynesville . .	P. M. D	Reynolds, G. E. . . .	Elizabethtown . .	R. D
Etrod, M. N. . . .	Hartsville . . .	R. D	Shane, T. A. . . .	Columbus . . .	H. D
Fitzpatrick, Bart. . .	Hope . . .	R. D	Stapp, S. . . .	Hope . . .	R. 10
Falk, Fred . . .	Columbus . . .	R. 10	Smalley, J. K. . . .	Hartsville . . .	R. D
Francis, E. T. . . .	Columbus . . .	R. D	Stader, Jas. W. . . .	Walesboro . . .	R. 3
Fogle, E. T. . . .	Hartsville . . .	E. D	Thompson, D. A. . . .	Elizabethtown . .	R. D
Fugate . . .	Clifford . . .	R. D	Voris, S. M. . . .	Columbus . . .	R. D
Griffin, L. B. . . .	Hope . . .	E. D	Wright, J. F. . . .	Columbus . . .	R. D
Hudson, J. B. . . .	Columbus . . .	E. D	Wisner, W. E. . . .	Columbus . . .	R. D
Hauzer, Z. T. . . .	Columbus . . .	R. D	Weisenberg, J. . . .	Waymansville . .	R. 10
Hawley, K. D. . . .	Columbus . . .	R. D			

Regular, 44; Eclectic, 6; Homeopathic, 4; Physio-Medical, 2; not reported, 1.

Benton County.

Baker, B. E. . . .	Earl Park . . .	R. D	Hunter, A. F. . . .	Raub . . .	E. D
Baker, Geo. W. . . .	Oxford . . .	E. 10	Kolb, Johnathan . . .	Oxford . . .	R. 10
COOK, CLARK . . .	Fowler . . .	R. D	Mavity, J. S. . . .	Fowler . . .	R. D
Christley, J. B. . . .	Boswell . . .	R. 10	Moore, A. V. . . .	Ambia . . .	R. D
Cheatum, L. P. . . .	Earl Park . . .	R. D	McCounell, H. C. . .	Oxford . . .	E. D
Fall, Chas. W. . . .	Oxford . . .	R. 3	Purdy, A. J. . . .	Fowler . . .	R. D
Green, Nellie E. . . .	Fowler . . .	R. 3	Roberts, S. R. . . .	Oxford . . .	R. 10
Green, J. W. . . .	Boswell . . .	R. 3	Simpkins, J. C. . . .	Boswell . . .	R. 3
Gray, W. H. . . .	Wadena . . .	E. D	Thompson, L. J. . .	Otterbein . . .	R. D
Gray, James A. . . .	Otterbein . . .	R. D	Wells, A. W. . . .	Swannington . .	R. D
Hard, A. D. . . .	Ambia . . .	R. D	Whitcomb, J. H. . .	Boswell . . .	R. 3

Regular, 19; Eclectic, 4.

Blackford County.

<i>Name.</i>	<i>Post Office.</i>	<i>School.</i>	<i>Name.</i>	<i>Post Office.</i>	<i>School.</i>
Alexander, J. T. . . .	Hartford City. . .	H. 10	Hardin, C. A. . . .	Hartford C'y P.-M.	D
Bell, J. E.	Roll	P.-M. D	Hunt, Thos. M. . . .	Millgrove.	E. 3
Clapper, M. M. . . .	Hartford City. . .	R. D	Landon, L. C. . . .	Priam	R. 10
Cronin, W. N.	Hartford City. . .	R. D	McFarland, J. E. . . .	Millgrove.	E. 10
Corey, C. N.	Hartford City. . .	R. D	Mason, C. R.	Hartford City. . .	R. D
DAVISSON, H. C. . . .	Hartford City. . .	R. D	Morrison, J. A. . . .	Montpelier.	R. D
Downey, H. J.	Hartford City. . .	R. D	Sage, J. W.	Hartford City. . .	E. D
Drayer, Peter.	Hartford City. . .	R. D	Sellers, John W. . . .	Montpelier.	R. D
Emshwiller, M. A. . .	Montpelier.	R. D	Snearingen, A. W. . .	Hartford City. . .	R. D
Frazier, S. S.	Roll	R. D	Wheeler, W. H. . . .	Hartford City. . .	H. 10
Harrold, J. R.	Roll	R. D	Wilt, W. W.	Montpelier.	R. D
Hardin, Alfred. . . .	Hartford C'y P.-M.	D	White, R. D.	Montpelier.	H. 10

Regular, 16; Homeopathic, 3; Eclectic, 3; Physio-Medical, 3.

Boone County.

Alford, J. S.	Zionsville	R. D	Kane, John M.	Rosston.	R. D
Austin, F. H.	Jamestown. . . .	E. D	Kellogg, N. P.	Lebanon	E. D
Ball, Joseph P. . . .	Lebanon	E. D	Loder, Chas. C. . . .	Advance	E. D
Bennington, A. M. . .	Max.	R. 10	Loder, Jennie C. . . .	Advance	E. 10
Bonnel, M. H.	Lebanon	R. D	Loder, Frank.	Advance	E. D
Banta, S. J.	Jamestown. . . .	R. 10	McGee, Jos. A.	Big Springs. P.-M.	D
Burk, G. L.	Jamestown. . . .	R. 10	McCormick, M. S. . . .	Big Springs	R. D
Bonnel, Thos. A. . . .	New Brunswick R.	E	McNutt, W. Y.	Zionsville	R. D
Brown, Eli P.	Thorntown	E. D	Miller, A. O.	Lebanon	R. D
Boyd, John M.	Thorntown	R. D	Meyers, John M. . . .	Terhune	R. D
Buttery, Margaret A.	Reese's Mills. N.R.	10	Noe, W. H.	Thorntown	R. D
Bruce, W. E.	Thorntown	H. D	Porter, A. G.	Lebanon	R. D
Barnes, Dawson E. . .	Thorntown	E. D	Porter, John R. . . .	Lebanon	R. D
Coons, H. N.	Lebanon	H. D	Purdy, Jos. C.	Terhune	R. 3
Cotton, H. L.	Zionsville	R. D	Reagan, Jessie S. . . .	Lebanon	R. 10
Curryer, Wm. F. . . .	Thorntown	E. D	Rose, Madison H. . . .	Thorntown	R. D
Crans, L. F.	Hazlrigg.	R. D	Smith, Carter H. . . .	Lebanon	R. D
Davis, David B.	Thorntown. N.R.	10	Scull, D. C.	Lebanon	R. 10
Everett, W. E.	White Lick. . . .	R. D	SCHULTZ, WM. H. . . .	Lebanon	R. D
Finch, A. M.	Terhune	N. R	Steelsmith, J. M. . . .	Rosston.	R. D
French, Martha J. . . .	Terhune	R. D	Silvy, H.	Hazlrigg	R. 10
Fitch, A. P.	Lebanon	R. D	Turner, Thos. S. . . .	Millidgeville. P.-M.	D
Hardy, J. S.	Whitestown	R. D	Trowbridge, Reese. . .	Lebanon	R. D
Hawk, Jos. R.	Thorntown	R. 10	Umberhine, C. D. . . .	Reese's Mills. . . .	R. D
Heady, W. S.	Jamestown	R. D	Van Nuys, D. H. . . .	Lebanon	R. D
Hamilton, J. A.	Advance	R. D	White, A. F.	Zionsville	N. R
Hurt, George K.	Elizaville	R. D	Walker, D. R.	Reese's Mills. . . .	R. D
Jordan, Thos. W. . . .	Whitestown	R. D	Worley, O. P.	Big Springs. P.-M.	D
Jones, Alfred B. . . .	Lebanon	E. D	Winters, Wm. H. . . .	White Lick.	R. D

Regular, 40; Homeopathic, 2; Physio-Medical, 3; Eclectic, 9; not reported, 4.

Brown County.

Browning, Nathan . . .	Needmore	R. 3	Moser, James P. . . .	Spearsville	R. D
Campbell, James B. . .	Beanblossom. . . .	R. 10	Mossop, Stephen . . .	Schooner	R. D
Cook, J. M.	Nashville	R. D	Ralph, A. J.	New Bellville	R. D
Fleener, Jos. N.	Needmore	R. 10	ROSS, JOHN C.	Nashville	R. D
Fritch, Joseph	Needmore	R. 10	Taylor, J. T. S.	Belmont	R. 3
Genolin, John F. . . .	Nashville	R. D	Wilson, Samuel C. . . .	Pike's Peak. P.-M.	10
Griffith, Arnold S. . .	Story	R. D	Ward, James G. . . .	Beanblossom	R. 3

Regular, 13; Physio-Medical, 1.

Carroll County.

Name.	Post Office.	School.	Name.	Post Office.	School.
ANGELL, C. E.	Delphi	R. D	Morrow, J. L.	Delphi	R. D
Angell, Chas.	Pittsburgh	R. D	Moore, A. G.	Carroll	R. 10
Armstrong, E. W.	Camden	R. D	Minnick, Horace R.	Flora	R. D
Armstrong, F. G.	Camden	R. 10	Loop, Wm. M.	Deer Creek	R. D
Brown, Nathaniel	Flora	E. 3	Lyons, Frank P.	Carroll	R. D
Camp, Chas.	Camden	E. D	Plank, W. H.	Deer Creek	R. D
Conway, Pat. Wm.	Ockley	R. D	Palmer, Robt. B.	Lockport	E. 10
Cramer, Jas. R.	Flora	E. D	Robinson, Frank H.	Delphi	H. D
Cook, A. J.	Flora	E. D	Shultz, F. A.	Delphi	E. D
Chittick, A. J.	Burlington	N. R	Shultz, J. J.	Delphi	E. D
Carter, J. D.	Camden	E. D	Sharrer, W. F.	Delphi	R. D
Clymer, —	Patton	E. D	Scholl, C. E.	Camden	R. D
Cochrane, Isaac N.	Radnor	R. D	Smith, Wickliff	Delphi	R. D
Greer, J. G.	Patton	P.-M. 10	Stewart, J. W.	Rockfield	R. D
Gordon, Baltzer L.	Burlington	R. D	Snyder, B. F.	Camden	R. D
Hall, J. D.	Camden	R. D	Souder, Cloyd F.	Burrows	R. D
Jackson, Com. P.	Bringinghurst	E. 10	Trobaugh, Wm. A.	Cutler	R. D
Kennard, J. L.	Geoman	R. D	Tidrick, R. R.	Brinkhurst	R. D
Kidd, Walter J.	Burlington	E. D	Walker, E.	Delphi	E. D

Regular, 21; Eclectic, 14; Physio-Medical, 1; Homeopathic, 1; not reported, 1.

Cass County.

Allen, James H.	Logansport	H.	Hermann, Arthur J.	Logansport	R.
Burton, John J.	Royal Center	E.	Hetherington, John P.	Logansport	E.
Ballard, J. W.	Logansport	R.	Hatch, Elmer M.	Logansport	H.
BUSJAHN, F. A.	Logansport	R.	Irons, John W.	Logansport	R. 10
Bell, W. A.	Logansport	R.	Justice, James M.	Logansport	R.
Banta, Henry J.	Logansport	R.	Jordan, M. A.	Logansport	E.
Ballou, H. B.	Logansport	R.	Jones, Allen B.	Logansport	R.
Buchanan, A. M.	Metia	10	Keys, Thomas M.	Logansport	10
Barnett, David C.	Dow.		Loop, L. W.	Galveston	R.
Bradfield, B. D.	Logansport	R.	Larose, Noah J.	Lucerne	E.
Cady, Nelson W.	Logansport	R.	Lynas, J. B.	Logansport	R. 10
Coleman, A.	Logansport	R.	Lester, H. C.	Logansport	E.
Clevenger, B. S.	Logansport	10	Lybrook, Wm. E.	Young America	R.
Chord, Aaron M.	Logansport	E.	Longenecker, O. B.	Logansport	D.
Campbell, Cyrus W.	Logansport	R.	Million, David	Royal Center	E.
Cowgill, Nathan C.	Logansport	D.	Neff, J. N.	Walton	R.
Downey, Jasper A.	Logansport	E.	Powell, Jehu L.	Logansport	R.
Dutchess, Chas. P.	Walton	R.	Parish, H. D.	Clymers	10
Deckard, S. J.	Logansport	10	Quick, L. L.	New Waverly	R.
Eckert, D. H.	Lucerne	E.	Quick, R. H.	New Waverly	R.
Ellis, Jonathan W.	Walton	E.	Sterrett, Joseph E.	Logansport	R.
Engler, Owen	Walton	R.	Stevens, Benjamin C.	Logansport	R.
Fontz, David N.	Royal Center	10	Shultz, J. H.	Logansport	E.
Fitch, Graham N.	Logansport	R.	Shultz, J. B.	Logansport	E.
Graham, Malcom	Logansport	R.	Smith, J. S.	Galveston	D.
Graves, Arthur E.	New Waverly	R.	Taylor, Joseph L.	Logansport	E.
Hallaman, Joseph	Logansport	R.	Thomas, C. L.	Logansport	R.
Hattery, H. D.	Logansport	R.	Talbot, J. W.	Logansport	R.
Hermann, John	Logansport	R.	Taylor, Mrs. Caroline	Logansport	10
Henry, L. W.	Logansport	10	Wills, John B.	Lincoln	R.
Holloway, Joseph H.	Logansport	E.	Weyand, Isaac S.	Royal Center	R.
Harding, G. W.	Twelve Mile	R.			

Regular, 33; Homeopathic, 2; Eclectic, 14; not reported, 11.

Clark County.

Allhands, D. S.	New Wash'g't'n. R.		Maloy, J. M.	Sellersburg	R.
Adair, S. L.	New Wash'g't'n. R.		McKinney, V.	Sellersburg	R.
Bottoff, C. M.	Charlestown	R.	McCoy, W. N.	Jeffersonville	R.
Beckwith, Lod W.	Jeffersonville	R.	McClure, David	Jeffersonville	R.
Coombs, D. H.	Charlestown	R.	McClure, S. C.	Jeffersonville	R.
Carr, F. M.	Oregon	10	McClure, C. S.	Jeffersonville	R.
Duerson, W. T.	Bethlehem	R.	Martin, F. A.	Jeffersonville	E.
Davis, J. F.	Jeffersonville	R.	Nickols, J. M.	Sellersburg	R.
Elrod, E. L.	Henryville	R.	McGlenn, W. P.	New Wash'g't'n. R.	
Fouts, W. K.	Jeffersonville	R.	Peyton, D. C.	Jeffersonville	R.
Ferguson, H. H.	Henryville	R.	Ruddell, I. N.	Jeffersonville	R.
Graham, T. A.	Jeffersonville	R.	Reynolds, J. M.	Memphis	R.
GRAHAM, O. P.	Jeffersonville	R.	Sheets, W. W.	Jeffersonville	R.
Hancock, C. F.	Jeffersonville	R.	Stalker, B. F.	New Providence R.	
Hening, R.	Jeffersonville	R.	Secoy, S. H.	Jeffersonville	H.
Hauss, Q. R.	Sellersburg	E.	Taggart, Jno.	Solon	R.
Haymaker, Geo. W.	Charlestown	R.	Taggart, Jos.	Solon	R.
Hart, Douglas	Sellersburg	R.	Work, W. F.	Charlestown	R.
Jones, Cad.	Charlestown	R.	Williams, L. L.	Utica	R.
Lampton, G. W.	Jeffersonville	R.	Zuerner, Jos.	Jeffersonville	R.
Martin, T. J.	Nabbs	P.-M.			

Regulars, 36; Eclectic, 2; Homeopathic, 1; Physio-Medical, 1; not reported, 1

Clay County.

Name.	Post Office.	School.	Name.	Post Office.	School.
Allen, Hiram P.	Bowling Green	R. 3	Moss, James K.	Ashboro	R. D
Bartholomew, N. B.	Poland	R. 3	Modesitt, Jas. A.	Cory	R. D
Brown, Willis B.	Clay City	R. 10	McCullough, F. M.	Staunton	R. D
Byers, Leonidas S.	Staunton	R. 3	Nall, Albert H.	Brazil	R. 3
Berne, S. P.	Clay City	R. D	Nussel, Frederick	Brazil	R. D
Black, Silas D.	Brazil	R. D	Pell, Geo. M.	Carbon	R. D
Black, Robert C.	Harmony	R. 10	Phipps, Stephen J.	Clay City	R. 10
Bonell, Charles.	Prairie City	R. D	Price, James M.	Brazil	R. 10
Briley, Absalom	Coffee	R. 10	Rundell, A. E.	Centre Point	R. D
Culbertson, R. H.	Brazil	R. D	Smith, Jacob F.	Brazil	R. D
Chamberlain, Wm. F.	Poland	R. D	Siddons, James O.	Harmony	R. 10
Cushman, David W.	Cloverland	R. D	Swinehart, Moses H.	Ashersville	P. M. 10
Dairs, F. M.	Knightsville	R. 3	SPELBRING, B. F.	Saline City	E. 3
Dairs, T. T.	Brazil	R. 3	Stockman, Philip.	Brazil	R. D
Elliot, Thomas A.	Poland	R. D	Tully, A. E.	Brazil	R. D
Finley, Geo. W.	Harmony	R. 3	Thornton, Felix G.	Knightsville	R. 3
Freed, Martin A.	Clay City	R. D	Talbot, Edward	Bowling Green	R. D
Glasgo, Thomas A.	Brazil	R. 3	Vansandt, Wm. H.	Carbon	R. D
Gifford, Joseph C.	Brazil	R. D	Yeach, Pat. H.	Staunton	R. D
Gantz, Richard.	Saline City	R. 10	Wolf, C. H.	Clay City	R. D
Holmes, Benj. F.	Brazil	R. D	Williams, John	Bowling G'n.	P. M. 10
Hale, Levi A.	Martz	R. 10	Wittman, C. H.	Clay City	R. D
James, Oliver J.	Cory	R. D	Witty, Benj. W. F.	Perth	R. 10

Regular, 43; Eclectic 1; Physio-Medical, 2.

Clinton County.

Abston Jesse M.	Sedalia	R. D	Lambert, I. C.	Manson	P. M. D
Andrews, James	Colfax	H. D	Lyons, James H.	Hillisburg	R. D
Allen, S. V.	Pickards' Mills	H. D	McGuire, Wm. H.	Frankfort	E. D
Bernard, Geo. W.	Mulberry	H. D	McMurray, J. S.	Frankfort	R. D
Bergen, E. D.	Frankfort	H. D	McMurray, A. S.	Frankfort	R. D
Bowers, Burton E.	Kirklin	R. D	Milburn, Joseph E.	Colfax	R. 10
Bowers, Valentine	Michigantown	R. D	Milburn, Robt. C.	Manson	R. 3
Bogan, Elisha W.	Kirklin	R. D	Morrison, O. A. J.	Middlefork	R. D
Brown, Geo. W.	Frankfort	R. D	Martin, Marquis L.	Forest	R. 10
Coon, Hiram J.	Colfax	R. D	McRich, Fannie	Frankfort	R. D
Canfield, Moses S.	Frankfort	E. D	Palmer, R. F.	Frankfort	R. D
Cooper, Wm. E.	Pickards' M. P.	M. D	Parker, Joseph	Colfax	R. D
Cooper, Wilson T.	Scircleville	R. D	Peter, Ed. L.	Moran	R. D
Cox, Timothy B.	Frankfort	R. D	Peter, D. C.	Forest	R. D
Coble, Albert H.	Frankfort	R. D	Peffley Wm. F.	Frankfort	E. 3
Chittick, Charles	Frankfort	R. D	Powell, Thos. J.	Michigantown	R. D
Dearth, M. H.	Jefferson	R. 10	Russell, Geo. A.	Jefferson	R. D
Dunn, Joseph R.	Pickards' Mills	R. D	Robinson, Thos. B.	Geetingsville	R. D
Davis, Newton C.	Frankfort	H. D	Randall, Wm. B.	Pickards' Mills	10
Douglass, Isaac W.	Michigantown	R. D	Swisher, F. M.	Frankfort	P. M. D
Douglass, Samuel	Frankfort	R. 10	Seawright, Jno. P.	Frankfort	R. D
Earhart, Isaac S.	Mulberry	R. D	Strange, Wm.	Frankfort	R. 10
Edmonds, Oscar W.	Frankfort	R. D	Shaw, James E.	Rossville	R. D
Fisher, John J.	Rossville	R. D	Seigler, Jno. N.	Geetingsville	R. 3
Fall, Wm. D.	Kirklin	R. 10	Schwinn Evan E.	Kirklin	R. D
Fisher, Samuel B.	Rossville	R. 10	Speitel, Henry B.	Frankfort	R. 10
Gard, Oliver	Frankfort	R. D	Saylor, Andrew J.	Frankfort	E. D
Homes, W. A. T.	Kirklin	R. 3	Smith, Wm. G.	Scircleville	R. D
Homes, H. D.	Scircleville	R. 10	SIMS, S. B.	Frankfort	R. D
Holmes, Theo. F.	Pickards' Mills	R. 10	Tharp, Levi	Boyleston	H. D
Hornaday, Wm. H.	Forest	R. D	Wise, James B.	Frankfort	H. D
Holmes, James H.	Manson	R. D	Wilso, Alex. M.	Frankfort	R. 10
Huntsinger, Eli	Frankfort	H. D	Yundt, A. M.	Mulberry	R. D
Knapp, S. O.	Frankfort	R. D	Young, M. V.	Frankfort	R. D
Koons, Monroe T.	Mulberry	R. D			

Regular, 53; Eclectic, 5; Homeopathic, 7; Physio-Medical, 3; not reported, 1.

Crawford County.

Baylor, G. W.	Milltown	R. D	Hawn, Jno. A.	Leavenworth	R. D
Brown, Sylvester L.	Eckerty	R. 10	Knight, Jno. B.	Mt. Prospect	R. 3
Byrn, Spencer	Marengo	R. D	King, N. W.	Taswell	R. 10
Brown, Geo. W. L.	Eckerty	R. 10	LUCKETT, CHAS. D.	English	R. D
Brown, Jno. F.	Miffin	R. 10	Merrilees, Wm. M.	Leavenworth	H. 10
Cole, W. A.	English	R. D	Mitchell, I.	Eckerty	R. 10
Gobbell, F. R.	Grantsburg	R. 3	Myers, J.	Alton	R. D
Gibbs, Jno. H.	Milltown	R. D	Meeks, L.	West Fork	R. 10
Holland, W. M.	Milltown	R. 10	Setser, H. H.	Leavenworth	R. D
Hammond, Jno. M.	English	R. D	Stewart, L. B.	Marengo	H. 10
Hazlewood, Jno.	Eckerty	R. D	Traugatt, Geo. B.	Milltown	R. D
Hollerott, Wm. R.	Alton	R. 10	Walls, Jno. W.	Eckerty	R. D

Regular, 22; Homeopathic, 2.

Davies County.

Name.	Post Office.	School.	Name.	Post Office.	School.
Anderson, W. B.	Washington	R. D	McPhearson, S. L.	Montgomery	R. D
Bingham, A. W.	Montgomery	R. D	McCown, C. C.	Washington	R. D
Bonham, A. N.	Washington	H. D	Moore, C. C.	Washington	R. D
Caster, D. R.	Epsom	R. 10	Opelt, E. A.	Carmellbury	R. D
Clark, J. W.	Glendale	R. D	Parks, J. F.	Cumback	R. D
Culmer, S. D.	Odon	R. D	Peck, S. W.	Washington	R. D
Dearmin, John	Odon	R. 10	Parr, G. L.	Washington	R. D
Divens, C. W.	Odon	E. D	Ragsdale, M. H.	Elnora	R. 3
Defendall, W. B.	Washington	H. D	Ray, T. G.	Epsom	R. 3
Eads, T. L.	Washington	R. 3	Seudder, Chas.	Washington	R. D
Fitzribbon, John	Washington	R. D	Seudder, J. A.	Washington	R. D
Faith, A. H.	Plainville	R. D	Seudder, C. P.	Washington	R. D
Gengelback, E. E.	Washington	E. D	SIMOUSE, W. H. H.	Washington	H. 10
Gers, Henry	Washington	R. D	Scanlon, M.	Washington	R. D
Harned, F. M.	Washington	R. D	Smith, D. J.	Odon	R. D
Horrall, W. A.	Washington	E. 10	Sears, Barton	Odon	R. 10
Hedrick, J. T.	Alfordsville	H. 10	Scott, J. T.	Elnora	R. D
Harris, S. F.	Odon	R. D	Stewart, E. J.	Glendale	R. D
Hobbs, W. P.	Raglesville	R. 10	Smith, J. R.	Washington	E. D
Joseph, Alex.	Washington	R. D	Tolliver, M. P.	Elnora	R. 10
Joseph, E. P.	Washington	R. D	Wolf, H.	Washington	R. D
Jensen, N. N.	Cornettsville	R. D	Williford, G. W.	Washington	R. D
Jones, J. N.	Washington	R. D	Walls, W. B.	Alfordsville	R. 10
Kent, M. C.	Washington	R. 10	Winton, C. F.	Washington	R. D
Lane, A. L.	Odon	R. 10	Walker, J. H.	Montgomery	R. D
Moore, J. L.	Washington	R. D	Young, W. L.	Odon	E. D
Millis, E. D.	Plainville	R. 10	Young, C. E.	Raglesville	E. D

Regular, 44; Eclectic, 6; Homeopathic, 4.

Dearborn County.

Bond, R. C.	Aurora	R. D	Libbert, E. J.	F'mer's Retre't.	R. D
Bond, E.	Lawrenceb'gh	R. 10	Lord, G. J.	Dillsboro	E. D
Bowers, A. J.	Moore's Hill	R. D	Lazenby, J. R.	Miller Tp.	R. D
Barkly, J. M.	F'mer's Retre't.	R. 3	Rectanus, Fred.	Aurora	R. D
Craig, T. E.	Lawrenceb'gh	R. 3	Katcliff, J. F.	New Alsace	R. 3
Collins, S. H.	Lawrenceb'gh	R. D	Sale, F. H., Jr.	Aurora	R. D
Crocker, F. L.	Manchester	R. D	Sale, J. H.	Dillsboro	R. D
CHAMBERLIN, S. B.	Lawrenceb'gh	R. 10	Sale, F. H., Sr.	Dillsboro	R. D
Daughters, A. P.	Moore's Hill	R. 10	Swales, W. H., Sr.	Logan	R. D
Kiermier, P.	Weisburg	R. D	Swales, W. H., Jr.	Logan	R. D
Ford, O. P. M.	Dillsboro	R. D	Swales, H. W.	New Alsace	R. D
Erieland, J. L.	Weisburg	R. D	Spaulding, J.	Dillsboro	R. D
Gatch, J. D.	Lawrenceb'gh	R. D	Schooly, W. A.	Guilford	R. D
Givan, S. E.	Manchester	R. D	Smith, Edwin	Aurora	H. D
Henry, Wm. C.	Aurora	R. D	Sutton, H. H.	Aurora	R. D
Heston, C.	Aurora	R. D	Truitt, G. W. C.	Guilford	R. D
House, J. W.	Kyle	R. D	Thomas, M. L.	Harrison	E. D
Hayward, M. P.	Lawrenceb'gh	H. D	Wenver, S. M.	Dillsboro	E. D
Kyle, G. M.	Aurora	R. D	Walters, C. G.	Lawrenceb'gh	R. 10
Kyle, J. J.	Aurora	R. D	Willette, W. H. H.	Harrison	R. D
Lamb, James	Aurora	R. D	Wolf, George	Lawrenceb'gh	H. D
Liddle, J. R.	Bright	R. D			

Regular, 37; Eclectic, 3; Homeopathic, 3.

Decatur County.

Alexander, John H.	Greensburg	R. D	Hitt, S. B.	Greensburg	R. 3
Ballard, L. J.	St. Paul	R. D	Howard, F. M.	St. Paul	R. D
Beall, C. M.	Clarksburg	R. D	Howard, J. W.	St. Paul	R. 3
Biddinger, S. W.	Waynesburg	R. 10	Jerman, L. W. D.	New Point	R. D
Bracken, W.	Greensburg	R. 10	Johnston, H.	New Point	R. 10
Bracken, J. B.	Greensburg	R. 10	Johnson, T.	Greensburg	R. D
Bunker, L. C.	Greensburg	E. D	Miller, T. E. F.	Westport	H. D
Barroughs, J. P.	Westport	R. 10	McCoy, W. A.	Forest Hill	R. D
Butler, W. G.	Clifty	H. D	Parker, J. W.	Adams	E. 10
Clark, G. E.	Waynesburg	R. D	Reiley, J. H. S.	Sardinia	R. D
Clark, J. T.	Lett's Corner	E. D	Reiley, W. F.	Sardinia	R. D
Cain, C.	Clarksburg	R. 10	Schofield, J. V.	Greensburg	R. D
Covert, C. A.	Greensburg	R. D	Smith, J. L.	Clarksburg	R. D
Crawford, G. S.	Clifty	R. D	Swem, E. B.	Greensburg	R. 10
Daily, F. M.	Millhouse	R. 10	Thomas, R. M.	Greensburg	R. D
Dowden, A. W.	New Point	R. D	West, M. C.	Forest Hill	R. 3
Grant, F. A.	Clifty	R. 3	White, B. S.	Sardinia	R. D
Goff, W.	Adams	R. 10	Williams, M. H.	Lett's Corner	R. D
Gullifer, T. B.	Greensburg	H. D	WOODEN, W. H.	Greensburg	R. D
Hause, W.	Westport	E. D	Woods, J. M.	Gaynorsville	R. D
Hitt, J. Y.	Greensburg	R. D	Wright, S. V.	Greensburg	R. D

Regular, 34; Eclectic, 5; Homeopathic, 3.

Dekalb County.

Name.	Post Office.	School.	Name.	Post Office.	School.
Allen, Wm. S.	Auburn.	R. 10	Ford, J. H.	Auburn	R. 10
Bennett, Jas. B.	Auburn.	E. D	Greenewald, M. J.	Auburn J'ct'n	E. 10
Barnett, Jas. S.	Butler	R. D	Hughes, Jas. W.	Waterloo.	
Bevier, Wm.	Waterloo	E. D	Kester, A. A.	Garrett.	H. 3
Brown, N. E.	Hamilton.	R. 10	Lewis, Jas. V.	Butler	R. D
Bowman, H. W.	St. Joe	R. D	Leasure, Lida P.	Auburn	R. D
BROUGHTON, F.	Waterloo	R. D	Mathena, T. G.	Auburn	R. D
Bowen, M. M.	Corunna	R. D	Merser, W. L.	Corunna	R. D
Buchtle, I. O.	Auburn.	H. D	Miller, J.	Butler	R. 10
Bevier, Frank	Waterloo.		Mathews, A. B.	Fairfield Centre	R. 10
Cameron, John F.	Hamilton	R. D	Nusbaum, W. H.	Auburn	R. D
Carpenter, W. P.	Butler	R. D	Rudolph, O. F.	Corunna	R. D
Cameron, Jas. G.	Hamilton.	R. 10	Swartz, Vesta M.	Auburn	R. D
Chamberlain, Jas. N.	Waterloo	R. D	Swartz, D. J.	Auburn	R. D
Casebeer, Jacob B.	Auburn.	R. D	Sebering, D. A.	Auburn	R. 10
Carpenter, Thos. J.	Waterloo	R. D	Sargent, Thos. C.	Garrett.	R. D
Clevenger, James A.	Garrett.	R. 10	Shiffer, B. F.	St. Joe	E. D
Darby, A. B.	Waterloo	E. D	Stewart, Chas.	Garrett.	R. D
Manuel, Gerry E.	Spencerville	R. D	Wood, F. B.	Garrett.	R. D
Farrington, A. G.	Waterloo	E. 10	Watson, B. G.	Auburn	E. D

Regular, 30; Eclectic, 7; Homeopathic, 2; not reported, 2.

Delaware County.

Allen, Seth	Muncie	R. D	McCrillus, Chas. C.	Muncie	R. 3
Ames, George F.	Eaton	R. D	Miller, Mrs. Elizb'th.	Muncie	H. D
Brandon, W. S.	Daleville	R. D	Munsey, D. O.	New Corner	R. D
Baird, John V.	Albany	E. 3	Murray, Albert P.	Albany	R. D
Bell, John N.	New Burlington	R. D	Murray, Albert L.	Eaton	R. 10
Bunch, R. A.	Muncie	E. D	Mitchell, Harvey	Muncie	R. 10
Bowers, Jos. F.	Muncie	R. D	Payton, Lewis	Muncie	P. M. D
Bowles, Thomas J.	Muncie	R. D	Phinney, Arthur J.	Muncie	H. D
Boyd, W. J.	Muncie	R. D	Polk, E. E.	Muncie	P. M. D
Cecil, A. A.	Cowan	R. D	Puckett, Elijah J.	Muncie	R. D
Comstock, J. S. D.	Cowan	R. 10	Quick, John C.	Muncie	P. M. D
Cornelius, W. W.	Daleville	R. 10	Koss, John C.	Muncie	E. 3
Cottrell, D. W.	Muncie	R. 10	Reid, S. M.	Muncie	R. D
COWING, H. A.	Muncie	R. D	Rogers, Wm. R.	Shideler	R. 10
DeLong, Orville A.	P. M. D		Reasoner, Osmer I.	Shideler	R. D
Downing, J. R.	Yorktown	R. D	Reading, Laura	Muncie	R. D
Driscoll, W. E.	Muncie	R. D	Ricks, Martin W.	Muncie	P. M. D
Dill, N. C.	De Soto	R. D	Shields, Edgar A.	Muncie	R. D
Eastes, Wm. T.	New Corner	R. D	Spurgeon, Wm. A.	Muncie	P. M. D
Flowers, Mrs. B.	Muncie	P. M. D	Smith, A. K.	Muncie	H. D
Good, Alonzo H.	Selma	R. 10	Smith, Chas. W.	Selma	R. D
Green, George R.	Muncie	R. D	Shively, David M.	Yorktown	R. 10
Harris, Jesse M.	Muncie	R. 10	Shideler, Joseph K.	Muncie	R. 10
Hayden, J. H.	Stout	P. M. D	Summers, Henry C.	Daleville	R. 10
Jackson, Frank G.	Muncie	R. 3	Stick, Jesse	Albany	R. D
Jones, Auburn C.	Muncie	H. D	Shaub, Daniel	Muncie	N. R. 10
Julian, James F.	New Corner	E. D	Snell, Solomon	Muncie	E. 10
Kemper, G. W. H.	Muncie	R. D	Schriver, Elizabeth	Muncie	N. R. 10
LeFavour, Joseph L.	Albany	R. 3	Searcy, G. H.	Muncie	R. D
Leech, Garrett D.	Muncie	R. D	Trowbridge, David L.	Muncie	E. 10
Lemon, Anna M.	R. D		Tuttle, John R.	Wheeling	R. 3
Marshall, Reuben	Cowan	R. D	Winans, H. M.	Muncie	R. D
Martin, John S.	Muncie	H. D	Whitney, W. D.	Muncie	H. D
Mansfield, T. J.	Royerton	N. R. D	Whitney, Mrs. E. A.	Muncie	H. D
	[Am. Health Col., Cin., O.]		Williams, J. R.	Eaton	R. D

Dubois County.

Bigham, O. A.	St. Anthony	R. D	Liekenmeyer, E. G.	Huntingburgh	R. 10
Beeler, E. E.	Holland	E. D	Montgomery, Geo. B.	Huntingburgh	R. D
Brannock, B. B.	Jasper	R. D	McAdams, C. C.	Celestine	R. D
Coble, Frederick	Birds Eye	R. D	McMahan, Wm. R.	Huntingburgh	R. D
De Bruler, O. E.	Ireland	R. D	Rust, John F.	Holland	R. 10
Gleason, E. A.	Ireland	— 10	Rust, Frederick	Holland	R. D
Hunter, Walter	Portersville	R. D	Stork, Henry W.	Holland	R. D
Harmoni, W. H.	Schnellville	10	SALB, JOHN P.	Jasper	R. D
Jenkins, A. J.	Ireland	R. D	Stephenson, Edward	Jasper	R. 10
Knapp, Victor	Ferdinand	R. D	Williams, G. P.	Huntingburgh	R. D
Kempf, James E.	Jasper	R. D	Walker, Geo. W.	Ellsworth	10
Line, William	Hillham	10	Wollenman, A. G.	Ferdinand	R. D

Regulars, 17; Eclectic, 1; not reported, 6.

Elkhart County.

<i>Name.</i>	<i>Post Office.</i>	<i>School.</i>	<i>Name.</i>	<i>Post Office.</i>	<i>School.</i>
Aitkins, F. M.	Bristol	R. D	Kaufman, Anna G.	Goshen	E. 10
Ash, Elmer E.	Goshen	R. D	Keene, Daniel P.	Goshen	R. D
Ash, W. N.	Middlebury	R. D	Knepple, W. H.	Wakarusa	R. 3
Baker, D. W.	Benton	R. 10	Kreider, M. K.	Goshen	H. D
Barbour, J. E.	Bristol	H. D	Kreider, W. B.	Goshen	H. D
Barney, Lee M.	Elkhart	R. D	Kyler, W. B.	Benton	R. 10
Baumgartner, C. C.	Elkhart	R. 10	Latta, M. M.	Goshen	R. D
Beyerle, H. J.	Goshen	R. D	Larimer, B.	Millersburg	R. D
Bower, C. C.	Elkhart	R. D	Lichty, S. E.	Wakarusa	R. D
Bowman, W. E.	Elkhart	R. D	Lockwood, R. L.	Wakarusa	H. D
Bowser, J. M.	Goshen	R. D	Martin, S. E.	Elkhart	E. 10
Brumbaugh, Melvin	Gravelton	P. M. D	Mathews, James	New Paris	R. D
Carper, Andrew J.	Elkhart	R. D	Merrill, Chester W.	Goshen	R. D
Cassell, Elizabeth	Elkhart	R. D	Miles, F. L.	Elkhart	R. D
Clark, Stephen T.	Elkhart	R. D	Miller, D. L.	Goshen	R. D
Defrees, Henry J.	Nappanee	R. D	Montgomery, T. (col'd)	Elkhart	R. 10
Dreese, C. L.	Goshen	R. D	Myers, J. W.	Goshen	E. D
Eckleman, F. C.	Elkhart	R. D	Neal, W. A.	Elkhart	H. 3
Eisenbeiss, Samuel	New Paris	R. 10	Niman, C. H.	Elkhart	R. D
Eisenbeiss, Albert	New Paris	R. D	Peck, M. Eva.	Goshen	R. 3
Fisher, A. L.	Elkhart	H. 10	Putt, F. L.	Middlebury	R. D
Frink, C. S.	Elkhart	R. D	Rohrig, P. J.	Goshen	R. D
Frink, C. W.	Elkhart	R. D	Sensenich, Aaron	Wakarusa	R. D
Greiner, G. G.	Vistula	R. 3	Shoemaker, Geo. L.	Nappanee	H. D
Haggerty, R. L.	Elkhart	R. D	Short, I. W.	Elkhart	R. D
Hani, W. F.	Elkhart	R. D	Snapp, Jas. A.	Millersburg	R. D
HEATWOLE, J. F.	Goshen	R. D	Sparkling, C. C.	Goshen	R. 10
Herring, Frederick	Goshen	E. 10	Spohn, G. W.	Elkhart	R. D
Hoover, John S.	Benton	R. D	Stauffer, H. R.	Nappanee	R. D
Horton, Mrs. Alice	Elkhart	R. D	Teeters, B. F.	Middlebury	R. D
Hoy, Benj. F.	Middlebury	R. D	Thomas, W. H.	Elkhart	H. D
Inks, John S.	Nappanee	R. D	Turner, Porter	Elkhart	H. D
Irwin, A. J.	Goshen	R. D	Whippy, W. A.	Goshen	H. 3
Jackson, Amos C.	Goshen	R. 10	Whippy, Geo. A.	Goshen	H. D
Jennings, J. W.	Millersburg	R. D	Whitmer, B. F.	Goshen	R. D
Johnson, W. W.	Goshen	R. D	Werk, J. A.	Elkhart	R. D

Regular, 57; Eclectic, 4; Homeopathic, 10; Physio-Medical, 1.

Fayette County.

Chitwood, G. R.	Connersville	R. D	Rhars, O. P.	Connersville	R. D
Chitwood, Joshua	Connersville	R. D	Roberts, Mrs.	Connersville	R. 10
CHITWOOD, JNO E.	Connersville	R. D	Sipe, R. W.	Orange	R. D
Chitwood, F. A.	Connersville	R. 10	Sheppard, S. D.	Everton	R. D
Derbyshire, E.	Bentonville	R. D	Smalley, John	Connersville	R. D
Dillman, L. D.	Connersville	R. D	Smalley, Mrs. Maud	Connersville	H. D
Elliott, H. H.	Glenwood	R. 10	Swallow,	Bentonville	P. M. D
Gregg, V. H.	Connersville	R. D	Tingley, W. B.	Harrisburgh	R. D
Hamilton, S. N.	Connersville	R. D	Turner, John	Null's Mills	E. 10
Larrimore, J. D.	Connersville	R. 10	Terrell, A. D.	Connersville	E. D
Logue, H. M.	Connersville	H. D	Vance, S. W.	Connersville	R. D
McCormack, W. W.	Fallmouth	R. D	Wall, John	Connersville	R. 10
Orr, J. P.	Glennwood	R. D	Wymann, Chas	Connersville	R. D
Repper, W. J.	Connersville	R. D			

Regular, 23; Homeopathic, 1; Eclectic, 2; Physio-Medical, 1.

Floyd County.

Beust, Max	New Albany	R. D	McIntyre, C. W., Sr.	New Albany	R. D
Beust, Bernard	New Albany	R. 10	McINTYRE, C. W., Jr.	New Albany	R. D
Burney, W. A.	New Albany	R. D	Neat, Thos. C.	New Albany	R. D
Buley, D. M.	Georgetown	R. D	Needham, H. J.	New Albany	H. D
Clapp, W. A.	New Albany	R. D	Payne, John N.	New Albany	R. D
Cannon, Geo. H.	New Albany	R. D	Rodgers, S. T.	New Albany	E. D
Cook, Chas. F.	New Albany	R. D	Rutherford, R. S.	Galena	R. D
Davis, James M.	Greenville	R. D	Runcie, G. U.	New Albany	R. D
Easley, Chas. P.	Galena	R. D	Sloan, John	New Albany	R. D
Erni, G. O.	New Albany	H. D	Steward, John L.	New Albany	R. D
Easley, E. P.	New Albany	R. D	Starr, W. L.	New Albany	R. D
Gresham, G. W.	New Albany	R. D	Severinghaus, E. A.	New Albany	H. D
Garey, D.	New Albany	R. D	Sigmon, Edwin L.	New Albany	R. D
Hause, A. P.	New Albany	E. D	Taggart, W. J.	Georgetown	R. D
Harris, R. W.	New Albany	R. D	Williams, W. R.	Greenville	R. D
Jones, Jas. H.	New Albany	R. D	Wolfe, H. S.	New Albany	R. D
Lemon, John H.	New Albany	R. 10	Wilcox, S. C.	New Albany	R. D
Levi, L. E.	New Albany	H. D	Wilcox, F. H.	New Albany	H. D
Maienthal, Ben	New Albany	R. D	Untz, H. C.	Greenville	R. D

Regular, 32; Eclectic, 2; Homeopathic, 4.

Fountain County.

<i>Name.</i>	<i>Post Office.</i>	<i>School.</i>	<i>Name.</i>	<i>Post Office.</i>	<i>School.</i>
Armstrong, Louis P.	Newtown . . .	R. D	Mendenhall, E. W.	Harveysburg . .	R. 10
Aydelotte, Thos. B.	Newtown . . .	R. D	Orrahood, Job D.	Cole Creek . . .	R. D
Burlington, C. B.	Attica	E. D	Parker, John . . .	Mellott	R. 3
Brackney, M. F.	Wallace	R. D	Pettit, Marshall . .	Veedersburg . .	R. D
Cole, Wm. C.	Attica	R. D	ROWLAND, GEO.	Covington . . .	R. D
Coggins, Chas. M.	Coal Creek . .	R. D	Riffle, John S.	Veedersburg . .	R. D
Case, Mervin F.	Attica	R. D	Richardson, A. G.	Veedersburg . .	R. D
Dawden, J. W.	Yeddow	E. 10	Rice, J. T.	Attica	R. D
Fine, Ephraim M.	Steam Corners .	R. D	Rupert, Archie M.	Attica	R. D
Finney, Chas. J.	Attica	R. D	Stout, Wm. R.	Hillboro	R. D
Hayes, Geo. C.	Hillsboro . . .	R. D	Sparks, Joseph T.	Yeddo	R. 10
Jones, Geo. S.	Covington . . .	R. D	Shoaf, Francis A.	Yeddo	R. D
Mock, J. W.	Covington . . .	R. D	Spining, Lynn . . .	Covington . . .	R. D
McNeil, Scott	Stone Bluff . .	R. 3	Young, B. F.	Veedersburg . .	R. D
Moore, Patrick B.	Kingman	R. 10			

Regular, 27; Eclectic, 2.

Franklin County.

Averdich, Henry G.	Oldenburg . . .	R. D	McGuire, W. W.	Metamora . . .	R. 10
Anness, W. R.	Bath	R. 3	Morgan, John . . .	Springfield . .	R. D
Abbatt, June . . .	Peppertown . .	E. D	McElwee, Harry . .	Bath	R. D
Berry, Geo., Sr.	Brookville . . .	R. 10	Owens, Robert J.	Cedar Grove . .	R. D
Berry, Wm. H.	Brookville . . .	R. D	Patterson, Evan L.	Brookville . . .	R. D
Buckingham, G. B.	Brookville . . .	R. D	QUICK, JOHN H.	Brookville . . .	R. 10
Bertenshaw, T. J.	Drewsburg . . .	R. 10	Rayburn, I. W.	Andersonville . .	R. D
Best, Wm. P.	Mt. Carmel . . .	E. D	Reed, Lewis Dewitt	Fairfield	R. D
Conner, Thos. H.	Metamora . . .	R. D	Schum, Charles . . .	St. Peters . . .	R. 10
Crepp, M. E.	Metamora . . .	R. D	Spillman, F. J.	Andersonville . .	R. D
Davis, W. H.	Mt. Carmel . . .	R. 10	Simmons, Ekmaab . .	Blooming Grove .	R. 10
Davis, W. J.	Laurel	R. D	Starr, P. J.	Blooming Grove .	R. 10
Gregory, Henry . .	Laurel	R. 10	Squires, Geo. E.	Brookville . . .	E. D
Linegar, D. B.	Whitcomb . . .	E. 3	Stoddart, S. P.	Brookville . . .	E. D
Mann, E. B.	Oldenburg . . .	R. D			

Regular, 24; Eclectic, 5.

Fulton County.

Babcock, I. L.	Rochester . . .	E. D	Johnston, A.	Akron	R. 3
Bailey, A. L.	Akron	H. 10	Loring, C. J.	Rochester . . .	R. D
Bitters, F. P.	Rochester . . .	R. D	Metzler, J. B.	Rochester . . .	R. 10
Brown, Angus . . .	Rochester . . .	H. 10	Morris, James M.	Fulton	R. 10
Case, Augustus . . .	Disko	R. D	Overmeyer, B. F.	Leiter's Ford . .	R. 3
Clymer, Newton J.	Bloomingsburg .	E. D	Rhodes, E. E.	Rochester . . .	R. D
Dawson, B. F.	Kewanna	R. D	Rannells, Jacob N.	Rochester . . .	E. D
Fish, S. R.	Bloomingsburg .	R. 10	Robbins, A. H.	Rochester . . .	R. D
Gould, Charles E.	Rochester . . .	R. D	Richards, John . . .	Blue Grass . . .	R. 3
Gould, V.	Rochester . . .	R. D	Shaffer, W. S.	Rochester . . .	E. D
HARTER, C. F.	Akron	R. D	Shields, A. M.	Rochester . . .	R. D
Hector, C.	Rochester . . .	E. D	Terry, C. C.	Akron	R. D
Hill, W.	Rochester . . .	E. D	Thompson, A. R.	Kewanna	R. 10
Howell, J. Q.	Kewanna	E. 10	Washburn, Elihu P.	Kewanna	R. D

Regular, 17; Eclectic, 7; Homeopathic, 2; not reported, 2.

Gibson County.

Name.	Post Office.	School.	Name.	Post Office.	School.
Burton, A. R. . . .	Princeton . . .	R. D	Montgomery, Thos. J	Owensville . . .	R. D
Burton, Hiram . . .	Somerville . . .	R. 10	Marchand, Victor . .	Owensville . . .	R. D
Ballard, John . . .	Haubstadt . . .	R. D	Munford, Samuel E . .	Princeton . . .	R. D
Blair, W. W. . . .	Princeton . . .	R. D	Malone, John A . . .	Princeton . . .	R. 10
Blair, Frank	Princeton . . .	R. D	Moore, Robert	Somerville . . .	R. D
Brown, Thomas M . .	Okland City . .	R. D	Mason, Robert S . . .	Somerville . . .	R. D
Benson, R. A. . . .	Buckskin	R. D	McGowan, J. W. . . .	Oakland City . .	R. D
Curtner, Paul H . . .	Hazleton	R. D	McGowan, W. J. . . .	Oakland City . .	R. D
Clark, John I	Owensville . . .	E. 3	McCool, W. E.	Oakland City . .	R. D
Duncan, Wm. B . . .	Patoka	E. 3	Nelson, Frank	Hazleton	E. 3
Davis, Oscar F . . .	Patoka	R. D	Null, Calvin L	Oakland City . .	R. D
DORSEY, GEO. L . . .	Princeton	R. D	Patten, James C . . .	Francisco	R. D
Eads, E. E	Oakland City . .	E. D	Powell, D. G	Princeton	R. D
French, W. W. . . .	Ft. Branch . . .	R. D	Ranice, John W	Ft. Branch . . .	R. D
Folley, Chas. F . . .	Patoka	R. D	Reavis, Daniel P . . .	Francisco	R. 10
Gudgel, John F . . .	Hazleton	H. D	Richie, L. B	Buckskin	R. 3
Genung, Wm. R . . .	Ft. Branch . . .	R. D	Rickets, R. R.	Hazleton	R. 10
Hudson, Oliver L . .	Princeton	H. 10	Strickland, Geo	Francisco	R. D
Hopkins, Jos. N . . .	Ft. Branch . . .	R. D	Stott, John	Princeton	R. D
Hopkins, Wm	Ft. Branch . . .	R. D	Shoemaker, David M . .	Owensville . . .	E. D
Ireland, John M . . .	Francisco	R. D	Shelton, J. W	Somerville . . .	R. 10
Kidd, Wm. G	Princeton	R. D	Shoptaugh, S. H . . .	Princeton	R. D
Kendle, Geo. C . . .	Princeton	R. D	Stewart, Wm. H	Oakland City . .	R. D
Hessinger, Ellis M . .	Patoka	R. D	Williams, John M . . .	Owensville . . .	E. D
Kyle, Warrick P . . .	Patoka	R. D	Williamson, W. T . . .	Ft. Branch . . .	E. D
Maxam, Frank H . . .	Princeton	R. D	Woodruff, A. C	Oakland City . .	R. D

Regular, 46; Eclectic, 6; Homeopathic, 1.

Grant County.

Ardery, Oscar	Unknown	R. D	Lord, J. L.	Marion	R. 10
Barnes, Robt. A . . .	Marion	P. M. D	Ludlum, Benj. F . . .	Marion	R. D
Barnes, Elanor V . .	Marion	P. M. D	Lawshee, Isaac F . . .	Swayzee	R. D
Barnes, Wm. C	Marion	R. D	Langston, Edgar . . .	Point Isabel . .	P. M. 3
Borden, Chas. B . . .	Marion	R. D	Litzenberger, O. P . .	Xenia	R. D
Bobos, A. J	Marion	— D	Landess, G. A	Van Buren . . .	R. D
Beck, Isaac E	Marion	P. M. D	Mock, Albert	Marion	P. M. D
Coldren, Wm. R . . .	Marion	P. M. D	Mock, Jas. F	Marion	P. M. 10
Corey, Lewis J	Van Buren . . .	R. D	McKinsey, Wm. M . . .	Marion	P. M. D
Conwell, L. V	Van Buren . . .	R. D	Munsee, Mrs. Lola . . .	Marion	P. M. D
Cook, Francis S . . .	Marion	P. M. D	Moore, S. W	Marion	E. D
Carey, Isaac	Marion	P. M. D	Munsee, J. S	Marion	P. M. D
Corey, Chas. W . . .	Van Buren . . .	R. D	Moon, Allen	Fairmount . . .	P. M. 10
Daniels, Geo. W . . .	Sweetser	R. D	McKinney, Geo. W . . .	Jonesboro . . .	R. D
Eberle, Peter	Marion	B. 10	Moon, Chas. V	Fairmount . . .	R. D
Eckert, Chas. H . . .	Marion	R. D	McTurnan,	Rigdon	— 10
Edgington, —	Marion	P. M. D	Mannering, N. H . . .	Rigdon	R. D
Flynn, Wm	Marion	R. D	Neal, John W	Marion	P. M. D
Forrest, Jno. H . . .	Marion	E. D	O'Neal, Oren	Marion	R. D
Fallis, Amos L . . .	Marion	P. M. D	Patterson, Joseph W . .	Fairmount . . .	R. D
Francis, Walter R . .	Marion	R. D	Pugh, John W	Upland	R. D
Fite, C. H	Jalapa	P. M. D	Pugh, Jefferson	Sweetser	R. D
Hollis, Saml	Upland	R. D	Page, H. G	Marion	P. M. D
Hollis, Ella A	Upland	R. D	Ross, Justin	Marion	R. D
Henley, Alpheus . . .	Fairmount . . .	R. D	Reasoner, Wm. S . . .	Pt. Isabel . . .	P. M. D
Haines, N. P	Sims	R. D	Ramer, B	Marion	P. M. D
Horn, Samuel	Jonesboro . . .	R. D	Shiveley, Jas. S	Marion	R. D
HAMILTON, A. A . . .	Marion	R. D	Shiveley, M. T	Marion	R. D
Hunter, R. P	Marion	R. D	Snodgrass, D. B	Marion	P. M. D
Hubbard, Wm. H . . .	Marion	R. D	Snodgrass, Mary	Marion	P. M. D
Hanmore, John J . . .	Marion	R. D	Stephens, Alfred	Marion	P. M. D
Hough, W. A	Marion	P. M. D	Stewart, Jos. S	Marion	R. D
Harden, Alfred	Marion	P. M. D	Stout, O. S	Upland	R. D
Haines, H. C	Marion	P. M. D	Seal, I. N	Hackleman . . .	R. D
Howe, Lawrence E . .	Marion	P. M. D	Swisher, Francis M . .	Marion	P. M. D
Jones, Enoch P	Marion	E. D	Stephens, Anna T . . .	Marion	P. M. D
Jones, Chas. R	Jonesboro . . .	E. D	Trimble, Darius	Marion	P. M. D
Jones, Chas. A	Marion	P. M. D	Thomas, H. A	Marion	P. M. D
Kimball, T. C	Marion	R. D	Votaw, Mrs. R. A . . .	Marion	P. M. D
Kimball, A. D	Marion	R. D	Williams, Lewis	Marion	R. D
Kersey, James B . . .	Marion	P. M. D	Williams, D. A	West Marion . .	E. D
Knight, John C	Jonesboro . . .	R. D	Wall, M. M	Marion	H. D
Kelsey, J. S	Xenia	R. D	Whitson, Eli M	Jonesboro . . .	R. D
Knapp, Albert R . . .	Marion	P. M. D	Williams, P. E	Sweetser	R. D
Lomax, Wm	Marion	R. D	Whorton, Wm. L	New Cumberland .	R. D
Lennox, Frank	Marion	R. D	Wilkinson, W. W . . .	Roseburg	P. M. D

Regular, 47; Eclectic, 5; Homeopathic, 1; Physio-Medical, 36; not reported, 3.

Greene County.

<i>Name.</i>	<i>Post Office.</i>	<i>School.</i>	<i>Name.</i>	<i>Post Office.</i>	<i>School.</i>
Aydelotte, Thomas	Lyons	R. 3	Herold, Henry	Owensburg	R. 10
Acton, Wm. G	Koleen	N. R. 10	Jackson, E. T	Newberry	R. 3
Asbury, W. H. H . . .	Jasonville	R. D	Lowder, H. R	Bloomfield	R. D
Burge, Nicholas C . .	Park P. O	N. R. 10	Marshall, Alfred F . .	Jasonville	R. D
Burke, Wm. H	Scotland	R. D	Mulane, Joseph	Lyons	R. D
Birdwell, Lafayette	Owensburg	R. 3	Minich, James	Worthington	R. D
Cook, Peter M	Solsberry	R. D	McIntosh, J. P	Newark	E. 3
Clay, Hiram	Worthington	E. D	McCabe, Henry H . . .	Worthington	E. D
Cravens, Samuel C . .	Bloomfield	R. D	Newman, Wm. R . . .	Linton	E. 10
Cravens, E. R	Marco	R. D	O'Neal, Wm. A	Worthington	R. 10
Durment, Chas. R . .	Newberry	R. D	Squires, Wm. B	Worthington	E. D
Edwards, Chas. H . .	Lyons	R. D	Sherwood, Elmer T . .	Linton	R. D
Gray, John W	Bloomfield	R. D	Selfridge, Wm. R . . .	Worthington	R. D
Gray, George B	Worthington	R. D	Sherwood, B. M	Newberry	R. D
Gray, Simeon	Worthington	R. 3	Sherwood, H. I	Linton	R. D
Gastineau, Henry . . .	Worthington	R. 3	Talbott, James	Marco	R. D
Green, Wm. L	Worthington	E. D	WHEELER, THOS	Bloomfield	R. D
Harrah, John M . . .	Switz City	R. D	Yenne, Chas.	Owensburg	R. D
Hannon, John W . . .	Scotland	R. D	Young, Jacob	Newark	R. D

Regular, 30; Eclectic, 6; not reported, 2.

Hamilton County.

Aldred, J. A	Hortonville	R. D	Kitchell, J. S	Noblesville	H. 10
Applegate, A. J . . .	Eagletown	R. 10	Loehr, E. C	Noblesville	R. D
Austin, E. P	Noblesville	E. 10	Lamb, E	Fortville	R. D
Axline, J. A	Noblesville	R. D	Lyle, A. W. T	Fisher's Switch . .	R. D
Benson, J. L	Noblesville	R. D	Miesse, Adam	Noblesville	R. 3
Booth, A. D	Noblesville	R. D	Moore, G. B	Omaga	R. D
Baker, J. J	Westfield	P.-M. D	Milliken, H. W	Sheridan	P.-M. D
Coffin, B. F	Westfield	P.-M. 10	McMurty, J. T	Boxley	R. D
Cook, C. W	Carmel	P.-M. D	McShane, J. T	Carmel	R. D
Cropper, E. A	Sheridan	R. D	Murphy, J. M	Arcadia	R. D
Davenport, H. E . . .	Sheridan	R. D	Mercer, J. T	Arcadia	R. D
Davenport, J. W . . .	Sheridan	R. D	Newby, J. C	Sheridan	R. D
Dore, S. C	Westfield	R. D	Parr, J. N	Jolietville	R. D
Driver, J. C	Atlanta	R. D	Pettijohn, O. B	Deming	R. D
Fancher, J. W	Sheridan	R. D	Pettijohn, J. B	Westfield	R. D
Fodrea, Z. H	Westfield	R. D	Smith, T. J	Noblesville	R. D
Graham, W. B	Noblesville	R. D	Smith, H. B	Ohio	R. D
Gray, J. M	Noblesville	R. D	Stout, H. H	Cicero	R. D
Griffin, R. L	Deming	R. 3	Shelburn, Wm. H . . .	Sheridan	R. D
HAWORTH, M. C . . .	Noblesville	R. D	Tucker, A. R	Cicero	R. D
Harold, N. G	Carmel	R. D	Teter, G. W	Boxley	P.-M. D
Hershy, K. C	Gray	R. D	Whitsell, P. P	Clarksville	R. D
Heath, S. P	Fisher's Switch . .	R. D	Warford, F. M	Cicero	R. D
Herr, H. H	Westfield	R. D	White, T. A	Noblesville	R. D
Johnson, M. S	Ekin	R. D	Wilson, Wm. L	Clarksville	E. D
Johns, W. D	Westfield	P.-M. D	Wheeler, M. M	Noblesville	E. D

Regular, 42; Eclectic, 3; Homeopathic, 1; Physio-Medical, 6.

Hancock County.

Adams, M. M	Greenfield	R. D	Howard, N. P., Jr . . .	Greenfield	R. D
Andrews, J. C	Westland	R. 10	Hannah, R. L	Warrington	R. D
Ayer, A. D	Charlottsville . . .	E. D	Hammer, N. L	Wilkerson	P.-M. D
BOOTS, SAMUELS . . .	Greenfield	E. D	Hervey, F. F	Fortville	R. D
Bruner, C. K	Greenfield	R. D	Hervey, T. P	McCordsville	R. 10
Bruner, Mary L . . .	Greenfield	R. D	Hervey, S. W	McCordsville	R. D
Black, John P	Greenfield	R. D	Julian, J. P	Wilkerson	P.-M. D
Buchell, Jacob	New Palestine . . .	10	Justice, W. A	Eden	R. D
Bell, John S	Philadelphia	10	Justice, J. H	Maxwell	R. D
Cory, J. S	McCordsville	R. D	King, W. R	Greenfield	R. D
Cummins, Jas. L . . .	Mt. Comfort P.-M. D		Kirkhoff, C. H	New Palestine . . .	R. D
Cox, W. B	Charlottsville . . .	E. D	Larimere, J. W	Carrollton	R. D
Cook, E. H	Wilkerson	R. D	Martin, S. M	Greenfield	R. D
Collins, O. S	Mohawk	R. D	Pratt, C. C	Willow Branch . .	R. D
Comstock, Jas. A . .	Greenfield	R. D	Stuart, A. H	Fortville	R. E
Dailey, G. W	Charlottsville . . .	E. D	Stuart, J. G	Fortville	R. D
Ely, J. M	New Palestine . . .	R. D	Saunders, J. K	Fortville	R. 10
Ely, L. G	New Palestine . . .	R. D	Selman, J. W	Greenfield	R. D
Howard, N. P	Greenfield	R. D	Troy, S. A	Milner's Corner . .	R. D

Regular, 29; Eclectic, 4; Physio-Medical, 3; not reported, 2.

Harrison County.

Name.	Post Office.	School.	Name.	Post Office.	School.
Anderson, J. W.	Moberly	R. D	Lafollette, Wm. P.	Mott's Station	R. D
Bennett, Jas. H.	Amsterdam	R. D	Mitchem, Littleton	Crisp X Roads	R. 10
Boston, Chas. H.	Bradford	P. M. D	Martin, G. F.	Corydon	R. D
Baxter, John C.	Mauckport	R. D	Moore, Wm.	Convenience	R. D
Clarke, Jacob.	Corydon	R. D	Marshal, D. J.	N. Middletown	R. D
Dean, H. K.	Central	R. D	Neely, I. L.	Corydon	R. D
Denbo, Wm. R.	Mauckport	R. 10	Reader, Wm. H.	N. Amsterdam	R. D
Davis, Wm. H.	N. Middletown	R. D	Siegler, R. R.	Ramsey	R. D
DANIEL, WM.	Corydon	R. D	Smith, A. E. L.	Corydon	R. D
Funkhouser, Wm. H.	Valley City	R. D	Smith, A. E.	Corydon	R. D
Funk, Z. T.	Corydon	R. D	Spurgeon, A. N.	Crandall	R. D
Finley, John F.	Palmyra	R. 10	Voyler, D. W.	Crandall	R. D
Forbis, B. F.	Laconia	R. D	Wolfe, Sam C.	Elisabeth	R. D
Fouts, David C.	N. Salisbury	R. 10	Wolfe, Z. C.	Lanesville	R. D
Horner, Jacob L.	Lanesville	R. 10	Wolfe, L. O. P.	Mauckport	R. D
Hopper, I. I.	DePauw	P. M. D	Winders, L. C.	Elisabeth	R. 10
Hurst, S. H.	Laconia	R. D	Wolpert, W. I.	Elisabeth	R. D
Jones, A. M.	Corydon	R. D	Weddell, J. D.	Elisabeth	R. D
Kandie, Wm. A.	Laconia	R. 10	Dr. Hunt is engaged in practice at Bradford, but has not taken out a license.		
Lawson, John E.	Corydon	R. D			

Regular, 36; Physio-Medical, 2.

Hendricks County.

Adams, Thomas J.	North Salem	R. D	Huron, Frank H.	Danville	H. D
Baldwin, I. J.	Brownsville	E. D	House, Geo. H. F.	Clayton	R. D
Bartholomew, B.	Danville	R. D	Hoadley, W. J.	Danville	R. D
Barker, Joel T.	Danville	R. D	Heavenridge, A.	Stilesville	R. D
Brill, James H.	Pittsboro	R. D	Johnson, Oscar B.	Lixton	R. D
Brent, I. N.	Pittsboro	R. D	Jessup, Maria A.	Friendwood	R. D
Brooks, M. W.	Hazlewood	R. 3	Kennedy, L. H.	Danville	R. D
Burk, Tighlman P.	Lixton	R. 3	Lawson, W. T.	Danville	R. D
Carter, Amos.	Plainfield	R. D	Marsh, John L.	Brownsville	E. D
Cloud, C. F. C.	Pittsboro	R. 10	Morgan, Abram	Cartersburg	E. D
Davidson, A. W.	Brownsville	R. D	McKittrick, Albert	Danville	R. D
Depew, M. F.	Danville	R. D	Martin, Simeon	North Salem	R. D
Dryden, Thomas F.	Clayton	R. D	Osborn, John A.	New Winchesr.	R. D
Dunning, Andrew	Plainfield	R. D	Parker, M. G.	Danville	R. D
FARABEE, C. E.	Danville	R. D	Robbins, Wm.	North Salem	R. D
French, John S.	Danville	R. D	Reagan, Jesse	Plainfield	R. D
Green, J. N.	Stilesville	R. D	Summers, Harvey C.	Amo	R. D
Grimes, Wm. T.	Coatesville	R. 3	Strong, John T.	Plainfield	R. D
Grimes, J. B.	North Salem	R. D	Strong, Asa M.	Belleville	R. D
Graham, Thomas A.	Brownsville	R. D	Sanders, Louis A.	Lixton	R. D
Gilbert, A. K.	Clayton	R. D	Seaton, Grafton W.	Cartersburg	R. D
Harvey, Wm. D.	Plainfield	R. D	Towles, Alfred N.	Danville	R. D
Harold, David H.	Plainfield	P. M. D	White, Charles A.	Danville	R. D
Hulsizer, E. E.	Avon	R. D	White, Wm. H.	Amo	R. D
Hunt, Stephen	Coatesville	R. D			

Regular, 44; Eclectic, 3; Homeopathic, 1; Physio-Medical, 1.

Henry County.

Baily, G. D.	Spiceland	R. D	Garrett, O. H.	Cadiz	R. D
Baily, Rachel Z.	Spiceland	R. D	Green, A. W.	Knightstown	R. D
Barrett, Omar H.	Knightstown	R. D	Griffs, Robert	Mindletown	R. D
BARTLETT, A. C.	New Castle	R. D	Gronendyke, O. J.	New Castle	R. D
Bartlett, C. G.	Lewisville	R. D	Gronendyke, T. W.	New Castle	R. 3
Bartlett, W. M.	Lewisville	R. 10	Guyer, O. K.	Lewisville	R. D
Benediet, H.	Springport	R. 3	Hardesty, J. C.	Millville	R. D
Bond, C. W.	Cadiz	R. 10	Hess, F. C.	Cadiz	R. D
Boor, W. A.	New Castle	R. D	Hollingsworth, A. S.	Lewisville	E. D
Boor, W. F.	New Castle	R. D	Hobbs, Wilson	Knightstown	R. D
Burke, G. W.	New Castle	R. D	Hollinger, I. N.	Blountsville	R. 3
Clapper, David	Mooreland	H. D	Holloway, Lizzie E.	Knightstown	H. D
Crouse, H. M.	Knightstown	R. D	Holloway, O. E.	Knightstown	R. D
Engleich, J. L.	Honey Creek P. M.	D	Johnson, E. M.	Knightstown	R. D
Eskew, W. C.	New Castle	R. D	Kirk, E. E.	Spiceland	R. D
Estabrook, L. W.	Springport	R. D	Kissel, William	New Castle	R. 10
Ferris, S.	New Castle	R. D	Leavens, A. DeWolf	Middletown P. M.	D
Ferris, E. S.	New Castle	R. D	McGarran, W. B.	Knightstown	R. D

Henry County—Continued.

Name.	Post Office.	School.	Name.	Post Office.	School.
McKillup, J. H.	Snyder	R. 10	Smith, Mary J.	Greensboro	P.-M. D
McSherry, J. L.	Sulphur Spr'gs.	R. D	Smith, R. A.	Greensboro	P.-M. D
Mendenhall, E. T.	New Castle	R. D	Stafford, Daniel	New Castle	P.-M. D
Modlin, Leander H.	Cadiz	R. D	Stafford, J. A.	Millville	P.-M. D
Moore, Lorella	New Castle	R. D	Stafford, Horace	Strathtons S.	P.-M. D
Newby, Timri	Greensboro	D. 10	Stafford, Charles A.	New Castle	P.-M. D
Newby, Nathan	Spiceland	P.-M. D	Stanley, J. C.	Rogersville	R. D
Norviel, R. D.	Mt. Summit	R. D	Thomburgh, F. L.	Middletown	R. D
Newhouse, John T.	Sulphur Spr.	P.-M. D	Thompson, J. F.	New Castle	R. D
Oalden, W. C.	Kennard	R. 10	Waters, P. C.	Middletown	R. D
Painter, B. W.	Middletown	P.-M. D	Wayman, J. C.	New Castle	P.-M. D
Pendleton, C. B.	Mech'eburg	P.-M. D	Weaver, John	Knightstown	R. 10
Pickering, S.	New Lisbon	R. D	Weeks, Elizabeth J.	Mech'n'sbr'g	P.-M. D
Post, B. O.	Sulphur Spr'gs.	R. D	Welsh, J. H.	Middletown	R. D
Rhea, John	New Castle	R. D	Williams, H. D.	New Castle	P.-M. D
Rodecap, G. W.	Middletown	H. D	White, J. A.	Dunreith	R. D
Rogers, S. G.	Moorland	R. D	Winston, L. V.	Knightstown	R. D
Rogers, LeRoy	Kennard	R. D	Yockey, D. H.	Blountsville	R. D
Redding, Jacob	New Castle	P.-M. D			

Regular, 47; Eclectic, 4; Homeopathic, 5; Physio-Medical, 16; not reported, 1.

Howard County.

Armstrong, E. A.	Kokomo	R. D	Murray, S. T.	Greentown	R. 10
Bates, A. J.	Kokomo	R. D	Moore, J. B.	Kokomo	R. D
Berst, J. H.	Kokomo	R. D	McClurg, Wm. H.	Kokomo	R. D
Bagwell, Lewis A.	Jerome	R. D	Newlin, S.	New London	R. D
Covalt, A. A.	Kokomo	R. D	Oiler, L.	Kokomo	R. D
Conner, I.	Pulox	E. 3	Puckett, J. L.	Kokomo	R. D
Cooper, W.	Kokomo	E. D	Rice, F. C.	Oakford	E. D
Cooper, I. A.	Kokomo	R. D	Ross, J. H.	Kokomo	R. D
Freeman, A. C.	Kokomo	R. 10	Ross, R. H.	Kokomo	R. D
Garr, J. O.	Kokomo	R. D	SMITH, R. H.	Kokomo	R. D
Gifford, T. V.	Kokomo	N. R. 10	Scott, W.	Kokomo	R. D
Hul, W. H.	Center	R. D	Scott, G. D.	Greentown	R. D
Hulburt, D.	Kokomo	N. R. 3	Sawyer, E. W.	Kokomo	H. D
Johnson, I. C.	Kokomo	R. D	Shirley, D. J.	New London	R. 10
Kern, T.	Kokomo	R. D	Thorne, J. C. F.	Kokomo	R. D
Kern, L.	Kokomo	R. D	Wright, J. W.	Kokomo	R. D
Kirkpatrick, J. B.	Kokomo	R. D	Wilson, R. Q.	Kokomo	R. D
Kemp, G. W.	Russaviile	R. 3	Wert, J. T.	Kokomo	R. D
Moulder, J. M.	Kokomo	R. D	Ware, C. W.	West Liberty	R. D
Miller, H. C.	Ridgeway	R. D	Worley, C. A.	Kappa	R. 10
Miller, L. C.	Alto	R. D			

Regular, 33; Eclectic, 5; Homeopathic, 1; not reported, 2.

Huntington County.

Bear, George	Huntington	R. D	Kuntz, Sylvester	Roanoke	R. D
Bonfield, W. D.	Warren	R. D	Kilander, Wm. J.	Markle	R. D
Burns, A. M.	Bippus	R. D	Lyons, Ira E.	Huntington	R. D
Beaver, N. M.	Huntington	R. D	Lyons, Wm. B.	Huntington	R. D
Bucher, J. C.	Andrews	R. D	Laymen, Daniel S.	Huntington	R. D
Crandle, Thos.	Majenica	E. D	Laymen, Emery H.	Huntington	R. D
Cory, H. W.	Huntington	H. D	Mitchell, Saml. P.	Mt. Etna	R. D
Carson, Wm. F.	Roanoke	R. D	Mackey, James L.	Warren	H. D
Chafee, Wm. C.	Huntington	R. D	McColgan, James	Bippus	R. D
Chenowith, Geo. F.	Mt. Etna	R. D	McColgan, Robert	Bippus	R. D
Derbyshire, S. J.	Andrews	R. D	McLin, Geo. H.	Huntington	R. D
Derbyshire, Luella	Andrews	R. D	Palmer, E. W.	Warren	R. D
Edgington, B. F.	Plum Tree	P.-M. D	Scott, N. W.	Huntington	R. D
Fry, Chas. W.	Bracken	R. D	Shaffer, A. H.	Huntington	R. D
Fisher, E. S.	Markle	R. D	Severance, LaGrange	Huntington	R. D
Fish, W. S.	Hoboken	R. D	Searls, J. D.	Huntington	R. 10
Frazier, F. M.	Warren	R. D	Williams, O. B.	Andrews	R. 10
Good, Chas. H.	Warren	R. D	Wallace, Leroy S.	Hoboken	R. D
Grayston, F. S. C.	Huntington	R. D	Wright, Chas. L.	Huntington	R. D
Grayston, B. H. B.	Huntington	R. D	WRIGHT, ERVIN	Huntington	R. D
Grayston, Chas. E.	Huntington	R. D	Wall, Francis M.	Warren	R. D
Gemmill, Henry C.	Markle	R. D	Yingling, D.	Huntington	R. D
Howland, M.	Majenica	R. D	Young, Edward L.	Pl's nt Plain	N. R. 10
Kemp, Jos. W.	Roanoke	R. D			

Regular, 41; Eclectic, 2; Homeopathic, 2; Physio-Medical, 1; not reported, 1.

Jackson County.

<i>Name.</i>	<i>Post Office.</i>	<i>School.</i>	<i>Name.</i>	<i>Post Office.</i>	<i>School.</i>
Anthony, James R.	Brownstown	R. D.	Monroe, V. H.	Seymour	R. 10
Bain, Wm. C. A.	Brownstown	R. 10	Newkirk, A. L.	Seymour	R. 10
Broke, W.	Reddington	N. R. 10	Ostermann, A. G.	Dudleytown	R. D.
Barnes, George O.	Courtland	R. D.	Orvis, George Q.	Seymour	R. D.
Bard, Thomas S.	Crothersville	R. 10	Paxson, James C.	Medora	R. D.
Cummings, H. A.	Mooney P. O.	R. 3	Patrick Charles E.	Seymour	R. D.
CUMMINGS, D. J.	Houston	R. 3	Reed, E. P.	Ewing	R. 10
Charlton, Samuel H.	Seymour	R. 10	Richards, Thos. J.	Mooney P. O.	R. 10
Casey, Wm. M.	Seymour	R. D.	Ruddick, L.	Seymour	R. D.
Chute, George H.	Freetown	P. M. 10	Shields, James M.	Seymour	R. D.
Converse, Elmer A.	Tampico	E. D.	Shields, J. T.	Seymour	R. 10
Ewing, F. M.	Vallonia	K. 10	Shipman, N. N.	Seymour	R. D.
Gerrish, M. F.	Seymour	R. D.	Shoemaker, E.	Seymour	N. R. 10
Galbraith, T. S.	Seymour	H. D.	Stilwell, Jos. A.	Brownstown	R. D.
Graessle, George G.	Seymour	H. D.	Tucker, W. W.	Tampico	K. D.
Green, James H.	Seymour	R. 10	Tinch, E. T.	Freetown	R. D.
Gibson, George W.	Houston	R. 10	Veazey, A. M.	Medora	R. D.
Green, Wm. O.	Dudleytown	R. 10	Veazey, T. R.	Seymour	R. D.
Hunter, Charles A.	Reddington	P. M. D.	Wells, James C.	Mooney P. O.	R. D.
Kyte, H. R.	Courtland	P. M. D.	Whitehead, Wm. E.	Brownstown	R. D.
May, Albert	Crothersville	P. M. D.	Wilson, M. V.	Medora	R. 10
McCormick, L. R.	Crothersville	R. D.	Warner, W. H.	Crothersville	R. D.
McMillan, Jas. P.	Medora	R. 10	Wilson, C. L.	Ewing	R. D.
Manuel, Grafton	Freetown	R. 10			

Regular, 40; Eclectic, 1; Homeopathic, 1; Physio-Medical, 3; not reported, 2.

Jasper County.

Alter, M. B.	Rensselaer	R. 3	LOUGHRIDGE, V. E.	Rensselaer	R. D.
Denning, J. C.	Rensselaer	R. 10	Patton, D. H.	Remington	R. D.
Hartsell, W. W.	Rensselaer	H. D.	Porter, J. W.	Rensselaer	R. 10
Jackson, M. E.	Rensselaer	P. M. D.	Reigh, McW.	Remington	R. 10
Jones, C. V.	Kniman	R. D.	Stockwell, Willard	Wheatfield	R. 10
Landon, Hannibal	Remington	R. D.	Washburn, I. B.	Rensselaer	R. D.
Loughridge, J. H.	Rensselaer	R. D.			

Regular, 11; Homeopathy, 1; Physio-Medical, 1.

Jay County.

Arthur, C. S.	Portland	R. 3	Miles, J. T.	Briant	R. D.
Anderson, James M.	Dunkirk	R. 10	Munsey, S. E.	New Mt. Pleasant	R. 10
BROWN, H. V.	Portland	R. D.	McKinsey, W. M.	Dunkirk	P. M. D.
Blackledge, L. N.	Pennville	E. D.	Mason, Samuel	Pennville	R. D.
Blackledge, Mrs. A. J.	Pennville	E. D.	Poling, S. K.	Portland	E. D.
Clevenger, B. F.	Redkey	R. D.	Rose, Jno. G.	Portland	E. D.
Connor, Norris F.	Redkey	R. D.	Rarick, I. N.	Bluff Point	P. M. D.
Dickes, Jno. T.	Portland	R. D.	Ralston, Augustus	New Corydon	R. D.
Davis, R. P.	Portland	R. D.	Sims, I. G.	Portland	R. D.
Duff, V. E.	Dunkirk	R. D.	Shepherd, Thos. S.	Portland	R. 10
Fertich, G. W.	Dunkirk	R. D.	Shepherd, G. W.	Redkey	R. 10
Glentzer, M. A.	Briant	E. 10	Sage, Ira T.	Redkey	E. 10
Gillam, S. A. D.	Portland	R. 3	Stiers, F. R.	Redkey	E. D.
Hall, Jno. W.	Portland	R. D.	Skinner, D. T.	Salamonia	E. D.
Horn, W. C.	Pennville	R. D.	Stanton, D. S.	Portland	R. 10
Hutchison, Jas. A.	Salamonia	R. D.	Sanders, C. B.	Pennville	P. M. D.
Jay, M. T.	Portland	R. D.	Selvey, S. S.	Dunkirk	R. D.
Kidder, Jas. F.	New Mt. Pleasant	R. 10	Thomas, E. Rosa	Redkey	P. M. D.
Kinsey, D. S.	Portland	R. 3	Vail, I. M.	Portland	E. D.
Mackey, C. W.	Portland	R. D.	White, T. C.	Powers	N. R. 10
Milligan, A. A.	Portland	R. D.	White, James K.	Pennville	R. D.
Morehouse, Jno. A.	Portland	R. D.	Young, Frank	Dunkirk	E. D.
Mincks, F. W.	Portland	H. 3			

Regular, 26; Eclectic, 11; Homeopathic, 1; Physio-Medical, 6; not reported, 1.

Jefferson County.

<i>Name.</i>	<i>Post Office.</i>	<i>School.</i>	<i>Name.</i>	<i>Post Office.</i>	<i>School.</i>
Brengle, J. S. . . .	Hanover . . .	R. 10	Lewis, J. F. . . .	Dupont. . . .	R. D
Burdsal, Chas. A. . .	Lancaster . . .	R. 3	Lewis, George B. . .	Dupont. . . .	R. D
Cooperider, J. . . .	Madison . . .	R. D	Lewis, Saml. B. . . .	Canaan	R. D
Christie, J. H. . . .	Canaan	R. D	Lefebber, James M. .	Graham	R. D
Cogley, T. J. . . .	Madison . . .	R. D	Matthews, James H. .	Madison	R. D
Cornett, W. T. S. . .	Madison . . .	R. D	McCOY, WM. A. . . .	Madison	R. D
Chastine, Harvey W. .	Big Creek . . .	R. D	McCarty, W. W. . . .	Canaan	R. D
Copeland, C. C. . . .	North Madison. R. D		Murit, Jas. A. . . .	Madison	R. D
Deputy, Solomon R. .	Kent	R. D	Penn, Ben. A. . . .	Bryantsburg . .	E. D
Dixon, Z. C. . . .	Deputy	R. 3	Rogers, Leroy	Hanover	E. D
Davidson, W. R. . . .	Madison . . .	R. D	Ryker, Chas. . . .	Manville	R. D
Forshee, T. W. . . .	Madison . . .	R. D	Reynolds, John H. .	Wirt	R. 10
Ford, S. M. . . .	Madison . . .	R. D	Rawlings, J. V. . . .	Wirt	R. D
Flanders, J. W. . . .	Dupont. . . .	R. D	Smith, Edwin M. . . .	Wirt.	N. R. 10
Freeman, Wm. . . .	North Madison. R. D		Sanderson, Thos. . .	Madison	R. D
Hutchings, W. D. . .	Madison . . .	R. D	Swan, Lyrus E. . . .	Hanover	R. D
Hutchinson, Jos. B. .	Madison . . .	H. D	Shetterly, W. R. . . .	Bryantsburg . .	R. D
Hewitt, George W. . .	Madison . . .	R. D	Townsend, S. M. . . .	Madison	R. D
Johnson, A. H. . . .	Chelsea. . . .	R. D	Tevis, R. M. . . .	Brooksbury. . .	R. D
Julian, Paris	Swanville . . .	N. R. 10	Tevis, E. R. . . .	Brooksbury. . .	R. D
Lewis, J. R. . . .	Madison . . .	R. D	Wadsworth, Chas. . .	Madison	R. D
Lewis, Geo. C. . . .	Kent	R. D			

Regular, 38; Eclectic, 2; Homeopathic, 1; not reported, 2.

Jennings County.

Adams, S. D. . . .	Brewersville . .	R. 10	Kendrick, N. C. . . .	Butlerville . . .	R. 10
Amick, C. C. . . .	Hayden	R. D	Light, A. B. . . .	North Vernon . .	R. D
Case, W. W. . . .	Zenas	R. D	Mitchel, W. J. . . .	Vernon	R. D
Coryea, F. M. . . .	Zenas	E. 10	Nelson, H. G. . . .	Vernon	R. D
Coryea, Philip	Nebraska. . . .	E. D	Nighswander, M. . .	Hayden	R. D
Firsich, B. . . .	N. Vernon. N. R. 10		Phillips, Chas. . . .	Scipio	R. D
Fall, W. R. . . .	North Vernon . .	R. D	Russell, Benj. F. . .	Paris	R. D
Gaddy, N. D. . . .	Lovett	R. D	Richardson, N. . . .	Vernon	R. D
Gaddy, Orville	Paris Crossing . .	R. D	Richardson, W. H. .	Vernon	R. D
GREEN, JAMES H. . . .	North Vernon . .	R. D	Reamy, W. H. . . .	Zenas	R. D
Hanna, J. L. . . .	Paris Crossing . .	R. D	Steurm, W. H. . . .	North Vernon . .	R. D
Hicks, B. R. . . .	N. Vernon. P.-M. D		Shepherd, J. F. . . .	Queensville. N. R. 10	
Kyle, James W. . . .	North Vernon. . .	R. D	Wildman, W. H. . . .	San Jacinto . . .	R. D

Regular, 20; Eclectic, 2; Physio-Medical, 1; not reported, 3.

Johnson County.

Adams, J. H. . . .	Amity	R. 10	Lee, D. F.	Providence, . . .	R. D
Adams, David	Edinburg	E. D	Miller, A.	Whiteland	R. D
Beebe, James	Whiteland	R. 10	Miller, D. H. . . .	Franklin	R. D
Bland, John A. . . .	Edinburg	R. D	Middleton, John T. .	Nineveh	R. D
Byers, R. S. . . .	Trafalgar	R. D	Maze, V. B. . . .	Needham	R. D
Burgett, D. A. . . .	Rook Lane	R. D	Noble, T. B. . . .	Greenwood	R. 10
Covert, G. W. . . .	Franklin	R. 3	Ott, L. E. . . .	Franklin	R. D
Carnes, Zachariah . .	Greenwood	R. D	Payne, P. W. . . .	Franklin	R. D
Coop, G. W. . . .	Edinburg	R. D	Payne, C. A. . . .	Franklin	R. D
Donnell, T. C. . . .	Franklin	R. D	Province, W. M. . . .	Providence	R. D
Dobyns, P. K. . . .	Whiteland	R. D	Paine, Luther	Edinburg. . . .	R. D
Davis, A. T. . . .	Edinburg	R. 10	Quick, M. S. . . .	Edinburg. . . .	E. D
Farris, J. T. . . .	Bargersville . . .	R. 10	Rush, W. P. . . .	Edinburg. . . .	R. D
Fisher, Ira C. . . .	Needham	R. D	Ream, J. B. . . .	Edinburg. . . .	R. D
George, W. E. . . .	Franklin	H. D	Telford, W. E. . . .	Bargersville . . .	R. D
Gillaspy, F. P. . . .	Stone's Cross'g. .	R. D	Woods, J. C. . . .	Franklin	R. D
Hall, W. C. . . .	Franklin	R. D	Wishard, J. M. . . .	Greenwood	R. D
Hall, H. J. . . .	Franklin	R. D	Wallace, B. . . .	Franklin	R. D
Hibbs, Irwin	Nineveh	R. 10	Willan, E. R. . . .	Trafalgar. . . .	R. D
Henry, James	Franklin	E. D	Willan, R. Day. . . .	Trafalgar. . . .	R. D
Jones, J. T. . . .	Franklin	R. D	WRIGHT, A. F. . . .	Nineveh	R. D
Kesley, John L. . . .	Stone's Cross'g. .	R. 3	Whitesides, L. L. . .	Franklin	R. D
Lanam, J. H. . . .	Edinburg	R. D			

Regular, 40; Eclectic, 4; Homeopathic, 1.

Knox County.

Name.	Post Office.	School.	Name.	Post Office.	School.
Alexander, James F.	Bruceville	R. D	Keith, Benj. F.	Edwardsport	R. D
Boyer, Eli	Vincennes	R. D	Kessinger, Wm. E.	Sandborn	R. D
Beard, Schuyler C.	Vincennes	R. D	Lytton, Jefferson	Wheatland	R. 3
Bedell, W. B.	Vincennes	R. D	Morgan, John S.	Red Cloud	R. 10
Beckes, Lyman M.	Vincennes	R. D	Martin, Z. G.	Bruceville	R. D
Ballard, Joseph H.	Vincennes	R. D	McDowell, James M.	Bruceville	R. D
Bever, John C.	Vincennes	P.-M. 3	Merritt, J. N.	Oaktown	R. 3
Bever, Almira C. W.	Vincennes	E. D	McGowan, Wm.	Oaktown	R. 10
Bailey, H. R.	Vincennes	E. D	McDowell, L. C.	Freelandville	R. D
Bruce, W. E.	Vincennes	H. D	McGanky, A. J.	Freelandville	R. D
Bugg, Ivan P.	Vincennes	R. 10	Meyer, H. N. H.	Freelandville	R. 10
Black, Elijah C.	Wheatland	R. 3	Medcalf, Wm. M.	Vincennes	H. D
Benham, C. W.	Wheatland	R. D	Moore, R. G.	Vincennes	R. D
Barnett, John H.	Monroe City	R. D	Pearce, A. B.	Vincennes	R. D
Cross, John F.	Vincennes	R. 3	Robbins, J. F.	Freelandville	R. D
Crawford, Geo. B.	Emison	R. D	Reeves, J. L.	Edwardsport	R. D
DuKate, John S.	Monroe City	R. D	Ray, J. W.	Emison	P.-M. D
DuKate, John B. D.	Wheatland	R. 10	SWARTZEL, J. A.	Vincennes	R. D
Davis, Royce	Decker	R. D	Smith, H. M.	Vincennes	R. D
Davenport, Wm. H.	Vincennes	R. D	Smith, Wm. F.	Vincennes	E. D
Edmondson, G. W.	Monroe City	R. D	Staley, L. B.	Bricknell	R. D
Fairhurst, O. C. C.	Vincennes	R. D	Spaulding, G. D.	Sandborn	R. D
Grigsby, Wm. B.	Oaktown	R. D	Shirts, Elmer	Sandborn	R. D
Harris, F. M.	Vincennes	R. D	Sparks, N. B.	Monroe City	R. 10
Hensley, J. H.	Vincennes	R. D	Sprinkel, W. B.	Oaktown	R. D
Harrison, S. L.	Vincennes	R. 3	Trout, R. E.	Oaktown	R. 3
Jessup, R. B.	Vincennes	R. D	Trueblood, J. W.	Monroe City	R. D
Jessup, R. B., Jr.	Vincennes	R. D	Von Trees, E. L.	Monroe City	R. D
Jones, W. R.	Bicknell	R. D	Williams, J. T.	Monroe City	E. D
Kent, Miranda C.	Edwardsport	R. D			

Regular, 51; Eclectic, 4; Homeopathic, 2; Physio-Medical, 2.

Kosciusko County.

Amiss, James M.	Silver Lake	R. D	Love, J. W.	Millwood	10
Byler, Joseph M.	Warsaw	H. D	Leech, Rich V.	Oswego	R. D
Bowser, John H.	Syracuse	R. D	Liter, W. S.	Claypool	R. D
Bash, J. M.	Warsaw	R. D	LONG, CHAS. R.	Piercetown	R. D
Burkett, Cal. W.	Warsaw	R. D	Moran, John W.	Etna Green	P.-M. D
Burkett, Ben.	Warsaw	R. D	Misner, Henry F.	Sidney	P.-M. D
Becknell, I. J.	Milford	R. D	Moro, Francis	Warsaw	E. D
Boydston, Benj. S.	Atwood	R. D	Moody, Theo. F.	Piercetown	R. D
Brackett, B. D.	Claypool	R. D	Parks, John P.	Atwood	R. D
Blair, David	Silver Lake	10	Parker, James W.	Oswego	10
Chandler, Joseph A.	Warsaw	R. 10	Pearman, Francis M.	Palestine	R. D
Clayton, Calvin M.	Warsaw	10	Potts, J. E.	Milford	R. D
Cummaek, Calvin M.	Milford	R. D	Robison, Andrew B.	Mentone	R. D
Dick, Milford L.	Wooster	P.-M. D	Robison, Sarah H.	Warsaw	E. 10
Dorsey, Allen P.	Sidney	E. D	Renolds, Winfield S.	Sevastapool	R. D
Frost, R. Fred	Warsaw	E. D	Snodgrass, Sam'l J.	Burkett	P.-M. D
Gorton, Mary L. L.	Warsaw	R. D	Swyhart, Anna	Warsaw	P.-M. D
Hazel, John B.	Claypool	R. D	Sherbund, Geo. W.	Silver Lake	E. D
Heffley, John W.	Mentone	E. D	Schoonover, Wm. S.	Warsaw	R. D
Hatfield, Thomas J.	Piercetown	10	Smith, James S.	Warsaw	P.-M. D
Hoover, John S.	Gravelton	R. D	Scott, Wm.	Sidney	R. 10
Hoovingarnier, J. B.	Milford	R. D	Shackleford, Tiffin J.	Warsaw	R. D
Hatfield, W. J.	North Webster	R. 1	Strain, Theo. F.	Liliver Lake	R. 10
Junkin, S. B.	North Webster	R. 10	Stockberger, E.	Mentone	R. 3
Johnston, E. E.	Leesburgh	R. D	Terry, Percy E.	Silver Lake	R. 3
Johnson, A. R.	Piercetown	H. 10	Terry, Daniel E.	Silver Lake	R. 10
Jameson, Martha E.	Warsaw	E. D	Tenant, L. H.	Sidney	10
Hing, H. O.	Piercetown	E. D	Woolley, Amos	Warsaw	R. D
Kelly, David C.	Millwood	10	Webber, Irvin B.	Warsaw	R. D
Keen, Levi	Milford	H. 10	Wall, James L.	Beaver Dam	P.-M. D
Ketchum, G. V.	Claypool	R. D	White, R. Parks	Warsaw	R. D
Kelly, Wm. M.	Etna Green	R. D	White, W. Alvin	Clunette	R. D
Kepflinger, Wm.	Burkett	10	Yocum, M. G.	Mentone	E. D

Regular, 40; Homeopathic, 3; Eclectic, 7; Physio-Medical, 7; not reported, 9.

Lagrange County.

<i>Name.</i>	<i>Post Office.</i>	<i>School.</i>	<i>Name.</i>	<i>Post Office.</i>	<i>School.</i>
Abbott, John F. . . .	Lima	R. D	Kester, A. A.	Wolcottville . .	H. 10
Abbott, Nelson . . .	Lima	R. D	Newnam, Harmer M.	South Milford .	R. D
Benham, Frank A. . .	Lagrange	H. D	Price, Henry B. . . .	Woodruff	R. D
Broughton, Forbes H.	Wolcottville . .	R. D	Raby, William	Wolcottville . .	E. 10
Dayton, George H. . .	Lima	R. D	Rawles, J. W.	Mongo	R. 10
Dancer, John	South Milford .	R. D	Schrock, H. W.	Shipshewana . .	R. D
DRYER, DWIGHT W.	Lagrange	R. D	Schrock, J. J.	Emma	R. D
Denny, J. N.	Haw Patch	R. 3	Spaulding, A. M. . . .	Brushy Prairie .	R. 10
Eash, Sam'l M.	Shipshewana . .	R. D	Short, Wm. H.	Lagrange	R. D
Engle, J. B.	Lagrange	R. 10	Short, John L.	Lagrange	R. D
Ferguson, W. A. . . .	Brighton	R. D	Toms, Alpheus	Scott	R. D
Goodrich, Charles D.	Lima	R. D	Vaughan, Iris J. . . .	Haw Patch	R. D
Griffith, Francis P. .	Lagrange	R. D	White, Edward G. . . .	Lagrange	R. D
Grubb, W. B.	Scott	R. 10	Waddell, Chas.	Lagrange	R. D
Hughes, Wm.	Lima	R. D	Wyatt, A. Robs. . . .	Lagrange	R. D
Heeslip, James M. . .	Mount Pisgah .	H. 10	Youngkin, Jerome W.	Wolcottville . .	R. 10

Regular, 28; Eclectic, 1; Homeopathic, 3.

Lake County.

Bacon, E. R.	Lowell	R. D	Johnson, J. E.	Hammond	H. D
Blarkston, W. B. . . .	Crown Point . .	R. D	Johnson, ———	Hammond	R. D
Bliss, M. G.	Crown Point . .	E. D	Jackson, L. D.	Hammond	P. M. D
BRANNON, G. D. . . .	Crown Point . .	R. D	King, C. W.	Hammond	E. 3
Carson, J. C.	Hammond	E. D	Mackey, Richard	Deep River . . .	E. D
Clark, R. J.	Hammond	R. D	Merrell, W. W.	Hammond	E. D
Campbell, C. W. . . .	Hammond	R. D	Mollen, H. E.	Hammond	R. D
Davis, J. E.	Lowell	R. D	Pettibone, Harvey . . .	Crown Point . . .	R. 3
Demars, G. E.	Hammond	R. D	Pettibone, Henry	Crown Point . . .	R. D
Frath, D.	Crown Point . .	R. D	Pratt, A. J.	Crown Point . . .	R. D
Gibbs, J. C.	Crown Point . .	H. D	Reading, A. H.	East Chicago . . .	E. D
Gray, Frank P.	East Chicago . .	R. D	Reading, Rose	East Chicago . . .	E. D
Groman, Chas.	Brunswick . . .	H. 10	Schreiber, Wm.	Hanover Center .	E. D
Gordon, P. P.	Hobart	R. D	Schroder, N. J.	Hobart	R. D
Gerrish, A. A.	Lowell	R. D	Seidler, Anthony	Dyer	R. 10
Higgins, John	Crown Point . .	R. D	Swartz, H. P.	Crown Point . . .	R. 10
Hill, Jesse L.	Lowell	R. D	Turner, Sam	Hobart	R. D
Iddings, Homer L. . .	Merrillville . .	R. D	Wood, J. A.	Lowell	R. 10

Regular, 24; Eclectic, 8; Homeopathic, 3; Physio-Medical, 1.

Laporte County.

Annis, E. L.	Laporte	R. D	Holloway, A. L.	Michigan City . .	E. D
Andrews, Geo. L. . . .	Laporte	R. D	Hollenbeck, B. W. . . .	Westville	R. 3
Bowman, Wm.	Wanatah	R. 10	Keene, L. S.	Laporte	R. D
Brown, D. T.	Michigan City . .	R. D	Ludwig, John H.	Laporte	H. D
Bowell, B. C.	Rolling Prairie .	E. D	Lambert, J. N.	Laporte	R. D
Crumpacker, D. S. . . .	Union Mills . . .	R. 10	Lockyer, Douglas	Otis	R. D
Cole, E. Z.	Michigan City . .	H. D	Martin, J. S.	Rolling Prairie .	R. 10
Calvert, R. H.	Michigan City . .	R. D	Meyers, J. H. W., etc.,	Laporte	R. D
Cowgill, N. C.	Michigan City . .	R. D	Mullen, A. J., Jr.	Michigan City . .	R. D
CRANDALL, R. O. . . .	Laporte	R. 10	Newkirk, J. W.	Union Mills . . .	R. D
Darling, N. S.	Laporte	R. D	Rogers, E. A.	Laporte	R. D
Dakin, Geo. M.	Laporte	E. D	Stevens, Mrs. M. A. . .	Laporte	E. D
Ellsworth, H. N. . . .	Kingsburg . . .	R. D	Short, R. B.	Union Mills . . .	R. D
Fisher, W. H.	Wanatah	R. 10	Truitt, N. J.	Westville	H. D
Fravel, T.	Westville	R. D	Whiting, S. C.	Laporte	H. D
Fahnstock, C. S. . . .	Laporte	H. D	Wilson, W. B.	Rolling Prairie .	E. 10
Fahnstock, A. A. . . .	Laporte	H. D	Wile, Jacob	Laporte	R. D
Gray, J. L.	Laporte	R. D	Wilcox, F. T.	Laporte	R. D
Godfrey, W. R.	Michigan City . .	R. D	Wardner, Horace	Laporte	R. D

Regular, 27; Eclectic, 5; Homeopathic, 6.

Lawrence County.

Name.	Post Office.	School.	Name.	Post Office.	School.
Allen, Edward F.	Fayetteville	R. 10	LA FORCE, H. C.	Bedford	R. D
Allen, J. T.	Mitchell	R. D	Laughlin, C. E.	Mitchell	R. D
Burton, Geo. W.	Mitchell	R. D	Lowder, Cyrus	Springville	R. 3
Burton, Wm. A.	Mitchell	R. D	McDonald, A. J.	Bedford	R. D
Burton, John	Georgia	R. 10	McIntyre, E. S.	Mitchell	R. D
Bare, A. W.	Bryantville	R. D	McLaughlin, Oliver	Bartlettville	R. 10
Butler, W. C.	Heltonville	R. 3	Meadows, Jacob	Bartlettville	R. 10
Berry, A. F.	River Vale	R. 3	Mitchell, Elijah E.	Avoca	R. 10
Dixon, H. C.	Tunnelton	R. D	Newland, J. W.	Bedford	R. 10
Donica, Thos. M.	Tunnelton	R. 10	Pearson, J. C.	Mitchell	R. D
DeLong, Orville	Heltonville	R. D	Phipps, J. M.	Bedford	R. D
Ellison, W. T.	Heltonville	R. D	Powell, James E.	Huron	R. D
Faubion, James	Heltonville	R. 10	Rariden, S. A.	Bedford	R. 10
Faucett, John H.	Bedford	R. D	Rariden, C. E.	Bedford	R. D
Freeland, John T.	Bedford	R. D	Smith, W. H.	Leesville	R. 10
Gardner, Joseph	Bedford	R. D	Smith, Spencer W.	Leesville	R. D
Gunn, J. H.	Springville	R. 10	Short, Wesley	Springville	R. D
Hunter, Sheldon F.	Fort Rittner	R. D	Voyles, Harvey	Fayetteville	R. D
Hornocker, S. D.	Silverville	R. 10	Walls, George W.	Bedford	R. D
Hon. B. J.	Bedford	R. 10	Yost, J. L. W.	Mitchell	R. D
Larkin, John B.	Mitchell	R. D	Yandell, Wm.	Huron	R. 10

Regular, 41; Eclectic, 1.

Madison County.

Alexander, J. L.	Chesterfield	N. R.	Hammond, John	Anderson	N. R. D
Armington, J. L.	Chesterfield	R. 3	Harter, J. H.	Anderson	R. 3
Armington, C. L.	Anderson	R. D	Jones, H. E.	Anderson	R. D
Annfleld, J. D.	Elwood	R. D	Jones, J. N.	Lapelle	N. R. D
Ardery, Oscar	Anderson	R. D	Kelley, J. D.	Anderson	R. D
Barris, D.	Anderson	R. D	Kneals, W. W.	Anderson	R. D
Branch, C. N. jr	Anderson	R. D	Lewis, W. H.	Pendleton	R. D
BRANCH, C. N. SR	Anderson	R. D	Line, L. C.	Alexandria	N. R. D
Broadbent, Oliver	Moonsville	R. D	Marlow, A. F.	Summitsville	P. M. D
Brown, Marlin	Summitsville	R. D	McGrannahan, —	Anderson	R. D
Brickley, W. P.	Anderson	P. M. D	McNutt, G. T.	Elwood	R. D
Brownbock, O. W.	Pendleton	R. D	Moore, J. R.	Lapelle	N. R. D
Burr, C. S.	Anderson	R. D	Morgan, Gillman	Gillman	R. 10
Chittenden, Geo. W.	Anderson	R. D	Nuzum, D. P.	Elwood	R. 3
Conerston, J. W.	Frankton	R. 10	Perry, A. J.	Alexandria	R. 3
Calloway, B. T.	Elwood	R. 10	Perry, J. W.	Alexandria	R. D
Craneheld, M. G.	Summitsville	N. R. 10	Perce, B. M.	Anderson	R. D
Cook, Ward	Pendleton	R. D	Pugh, J. W.	Alexandria	R. 3
Coffin, A. S.	Alexandria	R. D	Pedro, B. G.	Markleville	R. 10
Childs, B. F.	Frankton	P. M. D	Pratt, C. C.	Ovid	N. R. D
Cullen, J. C.	Anderson	R. D	Preston, G. T.	Anderson	R. D
Cook, J. C.	Fishersburg	R. 10	Rogers, Ellen	Pendleton	R. D
Clymer, D. H.	Elwood	R. 10	Rider, D. M.	Anderson	R. D
Clymer, D. C.	Elwood	R. 10	Rayner, —	Anderson	R. D
Dinen, C. E.	Perkinsville	R. D	Riggs, —	Linwood	N. R. D
Davidson, J. W.	Pendleton	P. M. D	Stewart, Jones	Anderson	R. D
Davis, J. W.	Anderson	P. M. D	Stuart, —	Linwood	R. D
Ebert, J. D.	Dundee	R. D	Sigler, D.	Elwood	R. D
Edwins, S. W.	Frankton	R. D	Swallow, G. E.	Summitsville	R. D
Fussell, L. B.	Markleville	R. D	Seins, T. S.	Elwood	R. D
Freach, W. J.	Frankton	R. D	Saunders, J.	Anderson	R. D
Fairchild, W. H.	Anderson	R. D	Sears, A. H.	Anderson	N. R. D
Fairfield, Nellie	Anderson	R. D	Sullivan, —	Alexandria	N. R. D
Fisher, A. G.	Anderson	R. D	Safer, A. R.	Anderson	R. D
Fallis, A. G.	Summitsville	R. D	Spaan, B. F.	Anderson	R. D
Garner, W. R.	Anderson	R. D	Suman, Wm	Anderson	R. D
Garrotson, W. M.	Perkinsville	R. D	Taylor, H. W.	Anderson	R. D
Guisinger, —	Florida	R. 10	Taylor, H. W.	Anderson	R. D
Ginn, J. F.	Elwood	P. M. D	Templeton, Emma	Anderson	R. D
Graham, J. J.	Lapelle	R. 3	Van Meter, J. H.	Florida	R. 3
Harter, Wm. P.	Anderson	R. D	Van Nuys, Wm	Anderson	R. D
Hunt, J. W.	Anderson	R. D	Walter, L. P.	Anderson	R. D
Huston, A. S.	Anderson	P. M. D	Wickersham, N.	Anderson	R. D
Hunt, V.	Anderson	R. 3	Wright, C. R.	Frankton	R. D
Hilligoss, G. H.	Anderson	R. 3	Wilson, S. C.	Anderson	R. D
Hougham, J. S.	Perkinsville	R. 3	White, F. W.	Summitsville	N. R. D
Horn, Wm. N.	Anderson	R. D	White, J. W.	Summitsville	N. R. D

Regular, 66; Eclectic, 5; Homeopathic, 5; Physio-Medical, 7; not reported, 10.

Marion County.

Name.	Post Office.	School.	Name.	Post Office.	School.
Abbett, Chas. H.	Indianapolis	E. 3	Carter, Jas	Indianapolis	3
Abbett, Francis M.	Indianapolis	E. D	Carter, Nathan P.	Mapleton	R. D
Abbett, Samuel	Indianapolis	P. M. D	Carey, Geo. A.	Indianapolis	R. D
Adams, Abbie M.	Indianapolis	R. D	Cary, E. E.	Indianapolis	R. D
Adams, Mary E.	Indianapolis	P. M. D	Carson, L. O.	Trader's Point	R. D
Allen, Horace R.	Indianapolis	R. 3	Carson, Wm. D.	Bridgeport	R. D
Allen, Wesley	West Newton	K. D	Casel, L. B.	Indianapolis	R. 3
Anderson, Jas. E.	Indianapolis	R. D	Carvin, James M.	Indianapolis	10
Andrews, V. E.	Indianapolis	R. D	Cable, Geo. A.	New Augusta	R. D
Anthony, Emanuel	Indianapolis	P. M. D	Chitwood, G. R.	Indianapolis	R. D
Anthony, Elisha G.	Indianapolis	P. M. D	Clark, Wm. H.	Indianapolis	R. D
Barnes, Damsen E.	Indianapolis	E. D	Clemmer, F. O.	Indianapolis	H. D
Bergen, E. D.	Indianapolis	H. D	Elline, L. C.	Indianapolis	R. D
Buehler, Jacob	Indianapolis	R. D	Cloud, Caleb S.	Indianapolis	10
Bufkin, Ezra	Indianapolis	P. M. D	Churchill, John C.	Indianapolis	R. D
Bucket, Chas. T.	Indianapolis	R. D	Combs, Geo. W.	Indianapolis	R. D
Bacon, Edgar H.	Indianapolis	H. 10	Cominger, John A.	Indianapolis	R. D
Baker, A. B.	Indianapolis	E. D	Cole, J. J.	Indianapolis	R. D
Ball, Addison W.	Indianapolis	R. D	Cook, Geo. J.	Indianapolis	R. D
Ballard, E. P.	Indianapolis	R. D	Collins, Wm. F.	Cumberland	R. 10
Barbour, E. P.	Indianapolis	R. D	Compton, J. A.	Indianapolis	H. D
Barnes, Chas. A.	Southport	R. D	Conner, Wm. H.	Indianapolis	10
Barnes, Henry F.	Indianapolis	R. D	Cooper, Chas. A.	Indianapolis	10
Barnes, Arthur	Southport	R. D	Cooper, Wm. C.	Indianapolis	E. D
Barnhill, T. J.	Irvington	R. D	Cory, Andrew F.	Oaklandon	E. D
Barrett, Jas. L.	Indianapolis	N. R	Cox, Joseph	Indianapolis	R. D
Barrum, C. E.	Indianapolis	E. D	Crest, John B.	Indianapolis	E. D
Bates, Joseph W.	Broad Ripple	R. D	Christ, D. O.	Indianapolis	R. D
Baughman, S. S.	Indianapolis	R. D	Cross, S. E.	Indianapolis	R. D
BECK, W. S.	Indianapolis	R. D	Culver, Thos. M.	Indianapolis	E. D
Bedford, C. T.	Indianapolis	P. M. D	Cunningham, H. S.	Indianapolis	R. D
Beebinger, John	Cumberland	R. D	Curry, Thos. W.	Southport	R. D
Bell, Guido	Indianapolis	R. D	Daniel, Joseph A.	Indianapolis	R. D
Bennett, Peter S.	Indianapolis	K. 10	Daniels, K. A.	Indianapolis	K. D
Bentley, W. R.	Indianapolis	H. D	Darrach, Geo. W.	Cumberland	R. D
Bigger, Robert H.	Indianapolis	R. D	Daugherty, John H.	Irvington	R. D
Bigger, Richard T.	Indianapolis	R. D	Davidson, J. C.	Indianapolis	P. M. D
Blitz, A.	Indianapolis	R. D	Davidson, G. U.	Indianapolis	P. M. D
Bobbs, Andrew J.	Indianapolis	R. D	Davis, R. A.	Indianapolis	R. D
Boland, K. H.	Indianapolis	R. D	Davis, Wm. C.	Indianapolis	E. D
Bowers, D. W.	Indianapolis	P. M. D	Davis, Jacob A.	Indianapolis	P. M. D
Bowers, John V.	Millersville	E. D	Deitch, O. S.	Indianapolis	R. D
Boyce, L. E.	Millersville	R. D	Denkewalter, F. W.	Indianapolis	R. D
Boyd, Jas. T.	Indianapolis	R. D	Denson, H. A.	Indianapolis	R. D
Boyden, Wilbur A.	Indianapolis	R. D	DePuy, A. H.	Indianapolis	E. D
Brayton, Alembert	Indianapolis	R. D	Divens, C. W.	Indianapolis	E. D
Brennan, Edward J.	Indianapolis	R. D	Dudley, H. A.	Indianapolis	R. D
Briggs, Elmer	Indianapolis	H. D	Duncan, Hiram	Indianapolis	R. D
Blu, Uriah L.	Indianapolis	E. 10	Dunlap, John M.	Indianapolis	K. D
Brown, E. A.	Brightwood	R. D	Dunning, L. H.	Indianapolis	R. D
Brown, Corydon	Gallaudet	H. D	Dunning, James H.	Indianapolis	R. D
Brown, Geo. J.	Indianapolis	R. 3	Duzan, G. N.	Indianapolis	R. D
Brown, John R.	Insane Hospital	R. D	Earp, S. E.	Indianapolis	R. D
Brown, John S.	Indianapolis	K. 3	Eastman, Joseph	Indianapolis	R. D
Brown, Josiah L.	Indianapolis	R. D	Ebberts, J. A.	Indianapolis	R. D
Brown, Samuel M.	Gallaudet	R. 10	Eckenhardt, G. S.	Indianapolis	R. D
Browne, Henry J.	Indianapolis	R. D	Egolf, H. M.	Indianapolis	R. D
Browning, Wm. J.	Indianapolis	R. D	Eisenbeiss, E. N.	Indianapolis	K. D
Browning, Wm. M.	Indianapolis	R. D	Elbert, S. A.	Indianapolis	K. D
Brumbraker, A. S.	Indianapolis	R. D	Elder, Elijah S.	Indianapolis	R. D
Bryan, Thos. N.	Indianapolis	R. D	Ellis, Wilcox	Indianapolis	R. D
Bryant, James	Indianapolis	N. R. 10	Eskew, H. T.	Indianapolis	R. D
Brynes, Daniel C.	Indianapolis	R. D	Erwing, C. K.	Indianapolis	H. D
Bryson, Rachel A.	Indianapolis	P. M. D	Fillmore, Edwin A.	Indianapolis	R. D
Butterfield, W. W.	Indianapolis	R. D	Finsley, F. C. N.	Indianapolis	R. D
Butterfield, S. A.	Indianapolis	R. D	Fisher, G. C.	Indianapolis	R. D
Clarke, Wm. B.	Indianapolis	H. D	Fonner, W. H.	Indianapolis	R. D
Cain, J. C.	Haughville	R. D	Farmer, Samuel W.	Indianapolis	E. D
Campbell, Levi S.	Indianapolis	R. D	Ferguson, Frank	Indianapolis	R. D
Cameron, J. J.	Indianapolis	R. D	Field, M. H.	Indianapolis	R. D
Canada, J. I.	Indianapolis	R. D	Field, E. U.	Cumberland	R. D
Canfield, B. C.	Indianapolis	R. D	Fisher, A. W.	Indianapolis	P. M. D
Canter, S. J.	Indianapolis	R. D	Fletcher, C. I.	Indianapolis	R. D
Carter, H. W.	Indianapolis	R. D	Fletcher, Wm. B.	Indianapolis	R. D
Carter, H. C.	Indianapolis	R. D			

Marion County—Continued.

Name.	Post Office.	School.	Name.	Post Office.	School.
French, Mattie J.	Indianapolis	R. D	Knew, Chas. B.	Indianapolis	R. D
Freitsky, John M.	Indianapolis	H. 10	Knap, W. H.	Indianapolis	E. D
Frink, C. W.	Indianapolis	R. D	Knight, O. C.	Indianapolis	E. D
Fuller, Wm.	Indianapolis	10	Keller, Christopher	Indianapolis	10
Geer, Norman M.	Indianapolis	R. D	Kindleberger, W. H.	Indianapolis	R. D
Geis, John F.	Indianapolis	R. D	Kendrick, W. H.	Indianapolis	E. D
Gibson, John B.	Indianapolis	R. D	Kerley, R. M.	Indianapolis	R. D
Galloway, Clinton	Indianapolis	R. D	Kitchen, John M.	Indianapolis	R. D
Garrison, James	Indianapolis	N. R	Kidd, W. J.	Indianapolis	E. D
Garver, John J.	Indianapolis	R. D	Kishadden, Henry	Indianapolis	D
Gates, Marie	Indianapolis	R. D	Koch, A. J.	Indianapolis P.	M. D
Gentle, L. F.	Indianapolis	R. D	Krumrine, J. A.	Irvington	H. D
Gill, John	Indianapolis	N. R. 10	Lampton, G. W.	Indianapolis	10
Gray, Wm.	Indianapolis	R. D	Lash, H. M.	Indianapolis	R. D
Graydon, R. G.	Southport	R. D	Lambert, John A.	Indianapolis	R. D
Green, L. M.	Indianapolis	R. D	Landaner, Simon C.	Indianapolis	H. D
Green, K. M.	Indianapolis	R. D	Laycock, R. T.	Indianapolis	E. D
Green, W. S.	Indianapolis	R. D	Lewis, E. R.	Indianapolis	R. D
Griggs, Oscar B.	Bridgeport	R. D	Lewis, James	Indianapolis	D
Haeblerlin, Herman	Indianapolis	R. D	Littlejohn, H. C.	Indianapolis	R. D
Harold, Isaac S.	Indianapolis	P. M. D	Longshaw, Anna M.	Indianapolis	H. D
Harrison, George E.	Indianapolis	E. D	Lockridge, John E.	Indianapolis	R. D
Heaton, Asa H.	Indianapolis	E. D	Loder, C. C.	Indianapolis	N. R.
Heidelmom, John N.	Indianapolis	R. D	Long, Henry	Indianapolis	E. D
Hessler, Robert	Indianapolis	R. D	Lohn, John B.	Indianapolis	R. D
Hollingsworth, M. P.	Indianapolis	R. D	Long, R. W.	Irvington	R. D
Halmon, C. C.	Indianapolis	R. D	Lutz, Geo. W.	Indianapolis	H. D
Hunt, Alfred T.	Indianapolis	P. M. D	Manker, F. E.	Indianapolis	R. D
Hadley, Evan	Indianapolis	R. D	Mackey, Arthur	Indianapolis	H. D
Hart, W. M.	Indianapolis	P. M. D	Madson, Mary M.	Indianapolis	E. D
Harvey, Wm. D.	Indianapolis	R. D	Mapes, Smith H.	Lawrence	R. D
Hasty, Geo.	Indianapolis	P. M. D	Martin, U. G.	Indianapolis	R. D
Haugh, John A.	Indianapolis	R. D	Martin, Francis	Indianapolis	H. D
Haynes, John K.	Indianapolis	H. D	Martin, W. F.	Indianapolis	R. D
Hay, H. A.	Indianapolis	R. D	Marsee, Joseph W.	Indianapolis	R. D
Hays, F. W.	Indianapolis	R. D	Maxwell, Allison	Indianapolis	R. D
Hays, Florence	Indianapolis	R. D	Mendenhall, A. B.	Indianapolis	R. D
Hammer, N. L.	Indianapolis	P. M. D	Mendenhall, Elijah	Indianapolis	R. D
Hamilton, J. A.	Indianapolis	10	Metcalf, Chas. N.	Indianapolis	R. D
Haynes, A. H.	Indianapolis	R. D	Meyers, John M.	Indianapolis	R. D
Henton, A. H.	Indianapolis	E. D	Mills, Seth	Valley Mills	R. D
Heil, Chas. P.	Indianapolis	E. D	Miller, Edward	Indianapolis	10
Helmig, H.	Indianapolis	10	Milligan, James W.	Indianapolis	R. D
Heltman, J. K.	Oaklandon	R. D	Moffet, F. C.	Indianapolis	E. D
Henthorne, L. S.	Indianapolis	R. D	Moffet, E. D.	Indianapolis	R. D
Hervey, Edwin V.	Indianapolis	R. D	Monroe, Jasper	Indianapolis	H. D
Hendricks, H. W.	Indianapolis	E. D	Montague, T. T.	Indianapolis	K. D
Hervey, Jas. W.	Indianapolis	R. D	Moore, N. L.	Indianapolis	N. R
Hettinger, J. B.	Indianapolis	D	Moore, S. H.	Indianapolis	R. D
Hibbin, Julia	Indianapolis	R. D	Moore, Mark W.	Indianapolis	R. D
Hinshaw, Thos.	Nora	R. D	Moore, Thomas	Indianapolis	3
Hodges, Edwin F.	Indianapolis	R. D	Moore, W. G.	Indianapolis	R. D
Holland, E. A.	Indianapolis	R. D	Morgan, W. V.	Indianapolis	R. D
Hopkins, A. G.	Indianapolis	R. D	Morrison, F. A.	Indianapolis	R. D
Houser, James A.	Indianapolis	E. D	Morrow, J. E.	Indianapolis	R. D
Hoover, John E.	Indianapolis	R. D	Muhl, Emil	Indianapolis	R. D
Hoss, Jacob V.	Indianapolis	R. D	McAllister, Lucas	Indianapolis	H. D
Howard, Edward	Indianapolis	E. D	McCabe, Henry	Indianapolis	E. D
Hurley, M. F.	Indianapolis	E. 3	McCaine, T. J.	Indianapolis	R. D
Jameson, Henry	Indianapolis	R. D	McClellan, A.	Indianapolis	R. D
Jeffries, W. E.	Indianapolis	R. D	McConnell, L. C.	Indianapolis	R. D
Jeter, Frank	Indianapolis	E. D	McCurdy, L. A.	Indianapolis	R. D
Jones, Levi M.	Indianapolis	R. D	McDonald, W. B.	New Augusta	R. D
Jones, Stephen	Indianapolis	E. D	McGaughey, Sam'l.	Acton	R. D
Johnson, W. H.	Brightwood	R. D	McKhan, Wm.	Indianapolis	R. D
Johnson, R.	Indianapolis	R. D	McLain, L. C.	Indianapolis	R. D
Jennings, D. B.	Indianapolis	E. D	McKeowen, John	Indianapolis	R. D
Jordon, John S.	Indianapolis	E. D	McNutt, W. Y.	Indianapolis	R. D
Jordan, L. W.	Indianapolis	H. D	Neff, Daniel	Indianapolis	10
Karstitter, Wm. B.	N. Indianapolis	R. D	Nash, S. W.	Indianapolis	R. D
Keen, Daniel V.	Indianapolis	N. R	Nesbit, Joseph A.	Castleton	R. D
Kendal, R. A.	Indianapolis	N. R	Noble, Edward	Indianapolis	E. D
Kennedy, John Y.	Acton	R. D	Newlin, Stanley C.	Indianapolis	R. D
Kahlo, Geo. W.	Indianapolis	R. D	Oliver, D. H.	Indianapolis	R. D
Kayne, Jennie A.	Indianapolis	K. D	Oliver, A. H.	Indianapolis	R. D

Marion County—Continued.

Name.	Post Office.	School.	Name.	Post Office.	School.
Oliver, J. H.	Indianapolis	R. D	Spahr, J. C.	Indianapolis	R. D
Outland, E. M.	Indianapolis	P. M. D	Stillson, Joseph	Indianapolis	R. D
Page, L. F.	Indianapolis	R. D	Stockton, Sarah	Indianapolis	R. D
Patterson, A. W.	Indianapolis	R. D	Stratford, A. W.	Indianapolis	R. D
Patterson, E. R.	Indianapolis	E. D	Stein, Frederick	Indianapolis	R. D
Pantzer, H. O.	Indianapolis	R. D	Stone, R. French	Indianapolis	R. D
Park, H. A. S.	Indianapolis	E. D	Stevenson, J. C.	Indianapolis	R. D
Partlow, John W.	Indianapolis	R. D	Stewevant, G. D.	Indianapolis	H. D
Parsons, John S.	Indianapolis	E. 10	Shafer, Henry	Indianapolis	10
Payne, Jas. H.	Julietta	R. D	Sutcliff, John	Indianapolis	R. D
Peachee, Harrison	Maywood	R. 10	Swain, Rachel	Indianapolis	E. D
Pfaff, O. G.	Indianapolis	R. D	Stevens, James E.	Indianapolis	P. M. D
Pettijohn, O. B.	Indianapolis	R. D	Swain, Fremont	Indianapolis	R. D
Pickrell, Geo. W.	Indianapolis	E. D	Talbot, J. N.	Indianapolis	R. D
Pink, Herman	Indianapolis	R. D	Taylor, James H.	Indianapolis	R. D
Potter, Theo	Indianapolis	R. D	Thomas, A. J.	Insane Hospital	R. D
Porter, G. D.	Indianapolis	R. D	Thomas, R. C.	Haughville	R. D
Prunk, D. N.	Indianapolis	E. D	Thomas, W. H.	Indianapolis	R. D
Purman, D. M.	Indianapolis	R. D	Thompson, D. A.	Indianapolis	R. D
Records, R. Samuel	Indianapolis	R. D	Thompson, J. L.	Indianapolis	R. D
Ragge, Wm. J.	Indianapolis	R. D	Thompson, W. C.	Indianapolis	R. D
Ruse, O. A.	Indianapolis	R. D	Thompson, O. K.	Indianapolis	R. D
Ratcliff, Barclay	West Newton	R. D	Todd, L. L.	Indianapolis	R. D
Ray, F. E.	Indianapolis	R. D	Tolly, W. C.	Indianapolis	R. D
Reed, Wilson	Indianapolis	H. D	Tomlinson, V. B.	Indianapolis	R. D
Rees, Wm.	Indianapolis	R. D	VanZand, Garrett	Indianapolis	R. D
Reynolds, Geo. W.	Indianapolis	R. D	Vernon, Geo. W.	Indianapolis	R. D
Reade, Jeremiah	Trader's Point	R. D	Virden, John E.	Indianapolis	R. D
Records, Samuel	Lawrence	R. D	Wegner, Theo. A.	Indianapolis	R. D
Raymond, Thos. U.		R. D	Waide, Robert	Indianapolis	P. M. D
Ridpath, H. W.	Indianapolis	R. D	Walker, John C.	Indianapolis	R. D
Ritter, C. L.		R. D	Walker, I. C.	Indianapolis	R. D
Robeson, W. C.	Indianapolis	R. D	Walker, Jos. B.	Indianapolis	R. D
Roberts, R. A.	Indianapolis	R. D	Wail, David	Clermont	R. D
Robertson, D. W.	Indianapolis	R. D	Wail, James H.	Haughville	E. D
Robins, Wesley	Indianapolis	E. D	Walters, P. J.	Indianapolis	R. D
Robinson, W. J.	Indianapolis	E. D	Warner, W. H.	Indianapolis	R. D
Roesgen, John P.	Indianapolis	10	Wands, Wm	Indianapolis	R. D
Rooker, James L.	Castleton	R. D	Ward, A. O.	Indianapolis	R. D
Rowe, L. M.	Indianapolis	R. D	Waterman, L. D.	Indianapolis	R. D
Rowley, William	Indianapolis	H. D	Webb, Joshua	Indianapolis	N. R
Rubrush, T. R.	Indianapolis	R. D	Weiss, C. G.	Indianapolis	R. D
Rutledge, W. V.	Indianapolis	E. D	Westholter, C. A.	Indianapolis	3
Runnels, O. S.	Indianapolis	H. D	Wells, B. P.	Indianapolis	R. D
Runnels, Solis	Indianapolis	H. D	White, A. R.	Indianapolis	R. D
Ryon, Wm. B.	Indianapolis	R. D	White, L. E.	Indianapolis	P. M. D
Sarber, W. H.	Indianapolis	E. D	White, S. M.	Indianapolis	P. M. D
Schaefer, R.	Indianapolis	R. D	White, G. J.	Indianapolis	R. D
Schmit, E.	Indianapolis	E. D	Whitney, G. F.	Indianapolis	R. D
Selman, A. G.	Indianapolis	10	Williams, James R.	W. Ind'polis	10
Serrin, James E.	Indianapolis	R. D	Williams, R. T.	Indianapolis	10
Sellers, T. P.	Indianapolis	R. D	Wishard, W. H.	Indianapolis	R. D
Scherer, Simeon P.	Indianapolis	R. D	Wishard, W. N.	Indianapolis	R. D
Siefried, Julia A.	Indianapolis	E. D	Wilson, Amos L.	Indianapolis	R. D
Silvey, Hilary	Castleton	3	Wileon, C. L.	Indianapolis	R. D
Sims, J. T.		R. D	Woehrman, E. A.	Indianapolis	H. D
Smith, A. J.	N. Indianapolis	E. D	Wood, Clare	Haughville	E. D
Smith, Mary	Indianapolis	R. D	Wood, Levi	Indianapolis	P. M. D
Smith, Martha J.	Indianapolis	R. D	Wood, N. V.	Indianapolis	R. D
Smith, Walter		P. M. D	Woodburn, Jas. H.	Indianapolis	R. D
Spees, Byron E.	Glenn's Valley	R. D	Woodburn, F. C.	Indianapolis	R. D
Stacker, Wm. H.	Indianapolis	R. D	Woodard, U. D.	Indianapolis	P. M. D
Stackhouse, Urbine	Indianapolis	R. D	Woodard, S. G.	Indianapolis	R. D
Stevens, Seriah	Indianapolis	R. D	Woollen, G. V.	Indianapolis	R. D
Starch, L. A. E.	Indianapolis	R. D	Wright, C. E.	Indianapolis	R. D
Sturtevant, Geo. W.	Indianapolis	H. D	Yoke, Chas	Bridgeport	R. D
Snowden, Jessie	N. Indianapolis	R. D	Young, James	Indianapolis	10
Spees, G. W.	Glenn's Valley	R. D	Young, Michael A.	Indianapolis	R. D
Spicer, J. W.	Acton	R. D	Young, Thos. J.	Indianapolis	R. D
Spink, M. A.	Indianapolis	R. D	Young, W. L.	Indianapolis	E. D

Regular, 304; Homeopathic, 22; Eclectic, 52; Physio-Medical, 27; not reported, 34.

Marshall County.

<i>Name.</i>	<i>Post Office.</i>	<i>School.</i>	<i>Name.</i>	<i>Post Office.</i>	<i>School.</i>
Bower, Isaiah . . .	Plymouth . . .	R. 10	Loving, Samuel C . .	Burr Oak . . .	R. D
Borton, T. A. . . .	Plymouth . . .	R. 10	Martin, J. S. . . .	Plymouth . . .	H. D
Baker, Joseph . . .	Plymouth . . .	E. 10	Miller, Allen G. . . .	Tyner City . . .	H. D
Bell, John F. . . .	Inwood . . .	R. 10	Moore, Allen. . . .	La Paz . . .	R. D
Brooke, Jased E. . .	Plymouth . . .	R. D	Matchette, A. C. . .	Bourbon . . .	R. D
Brown, C. A. . . .	Plymouth . . .	H. D	Neville, R. . . .	Teegorden . . .	R. 10
Caple, A. Z. . . .	Maxinkuckee . .	R. D	Oyler, Wm. A. . . .	Argos . . .	R. 3
Chapman, Clark . .	Argos . . .	E. 10	Pocock, Elias H. . .	Walnut . . .	R. D
Denniston, Jas. M. .	La Paz . . .	R. 10	Richey, Samuel R. .	Donaldson . . .	R. 10
Dunlap, Elizabeth W.	Plymouth . . .	H. 10	Rea, Oliver A. . . .	Marmont . . .	R. D
Eidson, J. W. . . .	Bourbon . . .	R. D	Reynolds, G. R. . .	Plymouth . . .	R. D
France, Samuel . . .	Bourbon . . .	R. D	Smith, J. W. . . .	Plymouth . . .	R. D
Gould, S. W. . . .	Argos . . .	R. D	Sutton, James A. . .	Argos . . .	R. 10
Herring, N. A. . . .	Bremen . . .	R. D	Spencer, Joseph . .	Tippecanoe't'n .	E. 10
Holtzendorf, A. C. .	Plymouth . . .	R. D	Tripp, Franklin . . .	Bremen . . .	E. 10
Hamilton, John J. .	La Paz . . .	R. D	Viets, Ella M. . . .	Plymouth . . .	H. 10
Johnson, Luther . .	Bourbon . . .	R. 10	Wahl, G. Franklin . .	Bremen . . .	R. D
Knott, David C. . .	Argos . . .	E. D	Wiseman, B. W. S. .	Marmont . . .	R. D
Kendall, J. T. . . .	Argos . . .	R. D	WILSON, JAS. H. . .	Plymouth . . .	R. D
Kiser, James H. . .	Inwood . . .	R. D	Younkman, A. B. . .	Bremen . . .	R. D
Linn, Timothy T. . .	Bourbon . . .	R. D			

Regular, 30; Eclectic, 6; Homeopathic, 5.

Martin County.

Brittain, S. H. . . .	Loogootee . . .	R. D	Porter, A. W. . . .	Loogootee . . .	E. D
Campbell, J. C. L. . .	Loogootee . . .	R. 3	Robison, G. M. . . .	Loogootee . . .	R. 3
Courtney, Thomas . .	Lost River . . .	R. D	Shirley, H. W. . . .	Shoals . . .	R. D
Dollins, T. C. . . .	Trinity Springs. .	R. 3	Sims, J. N. . . .	Dover Hill . . .	E. 3
DOOLEY, M. M. . . .	Loogootee . . .	R. D	Solomon, J. J. . . .	Shoals . . .	P. M. D
Freeman, G. M. . . .	Shoals . . .	R. D	Trueblood, J. C. . .	Loogootee . . .	R. D
Gray, William . . .	South Martin. . .	R. 10	Thomas, W. H. . . .	Keck's Church . .	R. 10
Malott, Geo. F. . . .	Trinity Springs. .	R. 10	Wright, A. W. . . .	Short . . .	R. D
Plummer, I. N. . . .	Shoals . . .	R. D			

Regular, 14; Eclectic, 2; Physio-Medical, 1.

Miami County.

Armstrong, Wm. K. . .	Mexico . . .	R. 10	Litzenberger, O. P. .	Xenia . . .	R. 3
Alford, Henry . . .	Peru . . .	R. 10	Mendenhall, O. A. .	Xenia . . .	R. D
Beggs, M. . . .	Macy . . .	R. 10	Moore, J. W. . . .	Mexico . . .	P. M. D
Bloomfield, E. M. . .	Peru . . .	R. D	Marsh, L. S. . . .	Peru . . .	R. D
Black, F. M. . . .	Peru . . .	E. D	Meek, J. A. . . .	Bunker Hill . . .	R. D
Barnes, John . . .	Macy . . .	R. 10	Maughmer, G. C. . .	Wawpecong . . .	R. D
Baldwin, John A. . .	Xenia . . .	E. 10	Newell, J. M. . . .	Denver . . .	R. D
Brower, Josiah . . .	Gilead . . .	E. D	Orr, A. C. . . .	Macy . . .	R. D
Belew, J. C. . . .	Chili . . .	E. 10	PASSAGE, H. V. . .	Peru . . .	R. D
Baldwin, M. F. . . .	North Grove . .	E. D	Pence, Rolin . . .	Peru . . .	R. 10
Bradley, T. . . .	Peori . . .	P. M. D	Ridenour, David . .	Chili . . .	R. D
Brenton, Wm. H. . .	Peru . . .	R. D	Ramsey, G. S. . . .	Peru . . .	R. D
Cox, Edgar . . .	Bunker Hill . .	R. D	Rutherford, C. E. . .	Peru . . .	H. D
Davis, L. . . .	Miami Town . .	E. D	Stewart, F. E. . . .	Peru . . .	H. D
Friermood, E. K. . .	Peru . . .	R. D	Stewart, W. B. . . .	Peru . . .	H. D
Frets, I. C. . . .	Deedsville . . .	R. 5	Smith, A. F. . . .	Wawpecong . . .	R. D
Graham, B. R. . . .	Peru . . .	R. D	Spooner, Jared . . .	Peru . . .	R. D
Higgins, C. B. . . .	Peru . . .	R. D	Taylor, Clarre . . .	Peru . . .	R. D
Helm, John H. . . .	Peru . . .	R. D	Watkins, F. H. . . .	Peru . . .	R. 10
Ijams, Thos. L. . . .	North Grove . .	R. D	Wilson, J. S. . . .	Macy . . .	E. 3
Kelsey, J. S. . . .	Xenia . . .	R. D	Wareham, J. W. . .	Gilead . . .	R. 3
Kalbfleisch, A. H. . .	Peru . . .	H. D	Ward, J. O. . . .	Peru . . .	R. D
LaDue, John . . .	Denver . . .	R. 10	Wilson, Wm. F. . . .	Bunker Hill . . .	R. D

Regular, 33; Eclectic, 7; Homeopathic, 4; Physio-Medical, 2.

Monroe County.

<i>Name.</i>	<i>Post Office.</i>	<i>School.</i>	<i>Name.</i>	<i>Post Office.</i>	<i>School.</i>
AXTELL, A. J. . . .	Bloomington . . .	R. 10	Maxwell, J. D. . . .	Bloomington . . .	R. D
Bryan, G. W. . . .	Bloomington . . .	R. D	Munson, G. H. . . .	Stanford . . .	R. D
Dodd, Jas. . . .	Clear Creek . . .	R. D	McLahlan, C. D. . . .	Harrodsburg . . .	R. 10
Farr, A. C. . . .	Bryant's Creek . . .	R. 3	Pressley, I. N. . . .	Ellettsville . . .	R. D
Gaston, J. H. . . .	Bloomington . . .	R. D	Potts, J. F. . . .	Bloomington . . .	R. D
Gardner, F. . . .	Bloomington . . .	R. D	Rice, N. L. . . .	Blossom . . .	E. D
Harris, J. E. . . .	Bloomington . . .	R. D	Spencer, A. C. . . .	Unionville . . .	R. D
Harris, R. C. . . .	Ellettsville . . .	R. 10	Stansifer, G. I. . . .	Stinesville . . .	R. D
Harris, J. J. . . .	Ellettsville . . .	R. 10	Smith, J. T. . . .	Harrodsburg . . .	R. 10
Harris, W. W. . . .	Ellettsville . . .	R. 10	Turner, J. P. . . .	Bloomington . . .	R. 3
Holland, P. C. . . .	Bloomington . . .	R. D	Weir, R. M. . . .	Bloomington . . .	R. D
Howe, E. B. . . .	Smithville . . .	R. D	Whitted, W. L. . . .	Bloomington . . .	R. D
How, U. H. . . .	Bloomington . . .	R. D	Warring, J. M. . . .	Smithville . . .	R. 10
Judah, M. T. . . .	Gent . . .	R. 3	Whitted, F. E. . . .	Ellettsville . . .	R. D
Lower, L. T. . . .	Bloomington . . .	R. D			

Regular, 27; Eclectic, 1.

Montgomery County.

Beatty, James L. . . .	New Market . . .	R. D	Kleiser, Arthur J. . . .	Waveland . . .	R. D
Brown, Lonzo F. . . .	Alamo . . .	R. D	Kirkpatrick, Chas. S. . . .	Ladoga . . .	R. D
Brown, Ira L. . . .	Alamo . . .	R. D	King, Richard F. . . .	New Ross . . .	R. D
Berryman, J. A. . . .	Darlington . . .	R. D	Layne, Preston M. . . .	Crawfordsville . . .	E. 10
Black, Dayton R. . . .	New Richmond . . .	R. D	Loffin, Wm. A. . . .	Linden . . .	R. D
Burroughs, Wm. H. . . .	Shannondale . . .	R. D	May, Willis L. . . .	Crawfordsville . . .	R. D
Bobo, Cal. W. . . .	Clark's Hill . . .	E. D	Morgan, Brastleton B. . . .	Crawfordsville . . .	R. D
Bowers, Homer . . .	New Ross . . .	R. D	Mahoney, John C. . . .	Ladoga . . .	H. D
Bronough, Charles F. . . .	New Ross . . .	R. D	Matler, Thos. S. . . .	Waveland . . .	E. 10
Ball, Zopher . . .	Waveland . . .	R. D	McMechan, Jas. G. . . .	Crawfordsville . . .	R. D
Bilbo, John W. . . .	Waveland . . .	R. 3	Naylor, Isaac E. S. . . .	Darlington . . .	R. 10
Cowan, E. H. . . .	Crawfordsville . . .	R. D	Olin, L. W. . . .	Elmdale . . .	R. D
Chambers, Wm. B. . . .	Crawfordsville . . .	H. D	Olinger, David E. . . .	Br'n's V'll'y N. . . .	R. 3
Culver, Dudley M. . . .	Waynetown . . .	R. D	Owsley, J. W. . . .	Darlington . . .	R. D
Currie, John H. . . .	Darlington . . .	R. 10	Odell, Jacob L. . . .	Kirkpatrick . . .	E. 3
Claypool, Jos. S. . . .	Waynetown . . .	R. 3	Parviance, Samuel W. . . .	Crawfordsville . . .	R. D
Detcheon, Elliott . . .	Crawfordsville . . .	R. 3	Ristim, Warren H. . . .	Crawfordsville . . .	R. D
Detcheon, Irwin A. . . .	Crawfordsville . . .	R. D	Russell, Joseph P. . . .	Waveland . . .	R. 10
Detcheon, Stow S. . . .	New Richmond . . .	R. 10	Rich, Fannie . . .	Crawfordsville . . .	R. 3
Dewy, George W. . . .	Crawfordsville . . .	R. 3	Seller, Tho. P. . . .	Mace . . .	R. D
Dingman, Jos. S. . . .	Linden . . .	R. D	Straughn, John W. . . .	Waveland . . .	R. D
Duncan, Joseph R. . . .	Crawfordsville . . .	E. D	Straughn, Kent K. . . .	Waveland . . .	R. D
Drake, Moses P. . . .	Ladoga . . .	R. D	Shannon, John S. . . .	Shannondale . . .	R. D
Dunlavy, Ira P. . . .	Waveland . . .	R. D	Shotts, Henry R. . . .	Linden . . .	R. D
Davidson, Jesse W. . . .	Yountsville . . .	R. D	Sutherland, Jas. F. . . .	Ladoga . . .	R. D
Eddingfield, Mace . . .	Mace . . .	R. D	Steele, Wm. W. . . .	Waveland . . .	R. D
Ensminger, Sam'l L. . . .	Crawfordsville . . .	R. D	Taylor, John N. . . .	Crawfordsville . . .	H. D
Etler, Jacob R. . . .	Crawfordsville . . .	R. D	Thomberry, John R. . . .	Crawfordsville . . .	R. 10
Gatt, W. F. . . .	Crawfordsville . . .	H. D	Talbot, Jesse N. . . .	Alamo . . .	R. D
Griffith, Martha . . .	Crawfordsville . . .	R. D	Trembley, Daniel G. . . .	Mace . . .	R. D
Griffith, Thos. J. . . .	Crawfordsville . . .	R. D	Tucker, George W. . . .	Bowers . . .	R. 3
Hutchings, Benj. F. . . .	Crawfordsville . . .	R. D	Tilney, DeCaux . . .	Crawfordsville . . .	E. D
Henry, Abijah F. . . .	Crawfordsville . . .	R. D	Vanceave, C. L. . . .	Wingate . . .	E. D
Hoover, Mary . . .	Crawfordsville . . .	R. D	Wallace, Mary H. . . .	Crawfordsville . . .	R. D
Hurt, Wm. J. . . .	Waynetown . . .	E. 3	White, Mary P. . . .	Linden (rem'vd) . . .	R. D
Hamilton, Albert N. . . .	Waynetown . . .	R. D	Washburn, Elihu P. . . .	Linden (rem'vd) . . .	R. D
Hyten, W. H. . . .	Parkersburg . . .	R. 10	Washburn, M. . . .	New Richmond . . .	R. 10
Irwin, Samuel G. . . .	Crawfordsville . . .	R. D	Wilson, John B. . . .	Ladoga . . .	R. D
Jones, O. H. . . .	Crawfordsville . . .	R. D	Walden, Chas. H. . . .	New Market . . .	R. 3
KEEGAN, E. W. . . .	Crawfordsville . . .	R. D	Williams, George T. . . .	Brown's Valley . . .	R. D
Keeney, Henry . . .	Linden . . .	R. 10	William, Ira C. . . .	Whitesville . . .	R. D
			Young, Dudley . . .	New Market . . .	R. 3

Regular, 69; Eclectic, 8; Homeopathic, 4; not reported, 1.

Morgan County.

<i>Name.</i>	<i>Post Office.</i>	<i>School.</i>	<i>Name.</i>	<i>Post Office.</i>	<i>School.</i>
Beaty, Wm. A.	Morgantown	R. D	Kelso, E. E.	Eminence.	R. D
Banta, Wm. C.	Martinsville	R. 10	Knight, James H. . .	Morgantown	R. D
Blackstone, B. D. . .	Martinsville	R. D	Leathers, D. A. . . .	Mooreville.	R. 3
Bridge, A. P. W. . . .	Alaska	R. 3	Lindley, C. M.	Brooklyn.	R. D
Cure, H. W.	Martinsville	R. 10	Murphy, Wm. M. . . .	Mooreville.	R. D
Farr, U. H.	Martinsville	R. D	Monical, Grant. . . .	Brooklyn.	R. D
Gravis, C. M.	Martinsville	R. D	Miller, G. W.	Martinsville	R. D
Green, E. V.	Martinsville	R. D	Prather, W. E.	Mahala'sville. . . .	R. 10
Griffith, R. C.	Morgantown	R. 9	Robinson, H. C. . . .	Martinsville	R. D
Grim, J. G.	Waverly	R. D	Robbins, Clark. . . .	Brooklyn.	R. 10
Griggs, Oscar B. . . .	Brooklyn.	R. D	Reagan, A. W.	Mooreville.	R. D
Hendricks, W. E. . . .	Martinsville	R. D	Seaton, Chas.	Martinsville	R. D
Henson, Theodore. . .	Alaska	R. D	Seaton, G. W.	Hall	R. D
Holiday, Thomas F. . .	Mooreville.	R. D	Shields, W. D.	Eminence	R. D
Harvey, D. B.	Monrovia.	R. D	Tilford, S. A.	Martinsville	R. D
Horton, Ellis.	Monrovia.	R. D	Tilford, A. S.	Hall	R. D
Johnson, Jarvis J. . .	Martinsville	R. D	Vincent, J. R.	Waverly	R. D
Johnson, James J. . .	Martinsville	R. D	Vansant, W. B.	Cope	R. D
Jones, Howard C. . . .	Hall	R. D	Whorton, J. O.	Waverly	R. D
Kennedy, D. P.	Martinsville	E. D	Williams, R. B.	Paragon	R. D
Kennedy, John.	Paragon	E. 10	Williams, K. H. . . .	Cope	R. D
KESSINGER, C. A. . . .	Martinsville	R. D			

Regular, 41; Eclectic, 2.

Newton County.

Allen, A. D.	Rosetown.	R. D	Hatch, J. A.	Kentland.	R. D
BECKNER, J. F., Sr. . .	Kentland.	R. D	Torrett, John A. . . .	Goodland.	R. D
Beckner, J. F., Jr. . .	Kentland.	R. D	Merry, J. W.	Mt. Cline.	R. D
Boice, R. B.	Kentland.	R. D	Prat, B. W.	Goodland	R. D
Caldwell, Samuel L. . .	Pilot Grove.	H. 10	Ransford, J. W. . . .	Lake Village.	R. D
Chaffee, J. C. M. . . .	Kentland.	H. 10	Relkner, L. H.	Morocco	R. D
Climmer, —	Goodland.	E. D	Smith, J. B.	Fernsman	R. D
Crisler, J. B.	Brook.	R. D	Wescott, —	Goodland	E. D
Humston, Milton N. . .	Goodland.	R. D	Triplitt, Chas. E. . . .	Morocco	R. D

Regular, 14; Homeopathic, 2; Eclectic, 2.

Noble County.

Buchtel, Mary M. . . .	Ligonier	R. 10	Newton, Warren E. . .	Ligonier	H. D
Carr, Geo. W.	Ligonier	R. 10	Niter, F. J.	Brimfield.	R. D
Depew, E. W.	Wolf Lake	R. 10	Olds, Wm. B.	Kendallville	E. D
Dunlap, Robert	Kendallville	R. 10	Reiff, N. G.	Albion	H. D
Eliot, C. J. F.	Ligonier	H. D	Reed, U. W.	Wolf Lake	H. D
Franks, W. H.	Ligonier	R. D	Seymour, C. A.	Wawaka	R. D
Gilbert, Joseph L. . . .	Kendallville	R. D	Shobe, W. A.	Ligonier	R. D
Ganta, John	Cromwell.	E. D	Schlottelback, E. L. .	Ligonier	R. 3
Green, Thomas C. . . .	Albion	R. D	Smith, J. F.	Rome City	R. 10
Green, W. T.	Albion	R. D	Snidt, —	La Otto.	R. D
Green, Fernando A. . .	Ligonier	R. D	Teal, Norman	Kendallville	R. D
Hays, J. W.	Albion	R. D	Teader, James L. . . .	Avilla	R. D
Isibel, Philander. . . .	Kendallville	R. 10	Tucker, Henry G. . . .	Cromwell.	R. 10
Knepper, E. W.	Ligonier	R. 10	Woodruff, Geo. S. . . .	Ligonier	E. D
Kester, R. S.	Kendallville	H. D	Williams, Warren S. .	Kendallville	R. D
LEMMON, S. W.	Albion	R. D	Williams, S. T.	Kendallville	E. D
Mitchell, Wm. L. . . .	Ligonier	R. D	Williams, Nathan. . . .	Kendallville	E. 10
Moore, Nathan B. . . .	Merriam	R. 10	Williams, Robert B. . .	Rome City	R. 10
Maloney, F. C.	Avilla	R. D	Williams, R. B., Jr. . .	Rome City	R. 3
Miller, B. E.	Albion	R. D	Wolf, Wm. R.	Ligonier.	

Regular, 27; Eclectic 6; Homeopathic, 5; not reported, 1.

Ohio County.

<i>Name.</i>	<i>Post Office.</i>	<i>School.</i>	<i>Name.</i>	<i>Post Office.</i>	<i>School.</i>
Alden, F. E.	Rising Sun . . .	R. 3	Miller, J. B.	Hartford	R. 10
Craig, W. H.	Rising Sun . . .	R. 3	Rockafellow, W. A. .	Hartford	R. 3
Elfess, John	Sugar Branch . .	R. D	STEVENSON, G. A. .	Rising Sun . . .	R. D
Gillispie, William . .	Rising Sun . . .	R. D	Sullivan, W. H. . . .	Rising Sun . . .	R. D
Langsdale, R. G. . . .	Rising Sun . . .	R. D	Wilson, W. H.	Guionsville . . .	R. 3
Langsdale, J. M. W. .	Rising Sun . . .	R. D	Spaulding, John . . .	Rising Sun . . .	R. D

Regular, 12.

Orange County.

Brent, William	French Lick . . .	R. D	Lindley, Laban. . . .	Paoli	R. D
BOYD, CHARLES L. . .	Paoli	R. D	Luckett, L. P.	French Lick . . .	R. D
Bowles, Lewis S. . . .	Paoli	R. 10	McDonald, John . . .	Valeene	R. D
Carter, Theo. P. . . .	Orangeville . . .	R. D	Montgomery, J. W. .	Paoli	R. D
Ellis, William D. . . .	Young's Creek . .	R. 10	May, George W. . . .	Orleans	R. D
Hazlewood, Geo. R. . .	Valeene	R. D	Ritter, John H. . . .	West Baden . . .	R. D
Hazlewood, Green . .	Chambersburg . .	R. D	Ryan, W. E.	French Lick . . .	R. D
Hunt, F. P.	Leipsic	R. 10	Ritter, Thomas B. . .	Orangeville . . .	R. 3
Kochenour, Wm. P. . .	Rego	R. D	Sherrod, Wm. T. . . .	West Baden . . .	R. 3
Laughlin, E. D. . . .	Orleans	R. D	Sherrod, James . . .	Paoli	R. 10
Lang, J. W.	Valeene	R. D	Stewart, O. H.	Syria	H. D
Lingle, R. W.	Orleans	R. D	Smith, E. H.	Newton Stewart .	R. 3
Lingle, S. L.	Paoli	R. D	Workman, W. S. . . .	Bromer	R. D

Regular, 25; Homeopathic, 1.

Owen County.

Beaty, William H. . . .	Spencer	R. D	McKeevey, S. R. . . .	Patrickburg . . .	R. D
Coble, Jacob	Spencer	E. D	Osgood, H. G.	Gosport	E. D
Cox, Nathaniel D. . . .	Spencer	R. 10	Pierson, Allen	Spencer	R. D
Denke-Walter, F. W. .	Spencer	R. D	Plew, John H.	Coal City	E. D
Erskine, A. C.	Hauertown	R. D	Prichard, C. A. . . .	Gosport	R. D
Fisher, B. F.	Quincy	R. D	Rice, W. H.	Cuba	R. D
Florens, Thos. W. . . .	Coal City	R. 10	Richards, S. D. . . .	Patrickburg . . .	R. 10
Gantz, Thos.	Freedom	R. 10	Schell, F. A.	Spencer	E. D
Gray, O. F.	Spencer	R. D	Sloan, John N.	Patrickburg . . .	R. 10
Hamilton, J. W.	Coal City	R. D	Smith, J. W.	Gosport	R. D
Henkle, Jas. S.	Coal City	R. D	Stucky, John M. . . .	Gosport	R. D
He-ter, A. V.	Arney	R. 10	Stucky, F. V.	Gosport	R. D
Hixon, Wm. H.	Farmers	E. 10	Symons, T. C.	Hauertown . . .	R. D
Jones, Jesse M.	Catawact	R. 10	Torrense, Geo. H. . .	White Hall . . .	R. D
Kennedy, John	Gosport	R. 10	Wheeler, Thos	Freedom	R. D
Livingston, J. J. . . .	Freeman	E. D	Wooden, J.	Gosport	R. 10
Maddox, W. B. S. . . .	Vaudalia	E. 10	WILES, WM. V.	Spencer	R. D
Minch, A. J.	Freedom	R. 10	Williams, John A. . .	Patrickburg . . .	R. 10
McCabe, H. H.	Coal City	R. 10	Young, Wm. S.	Coal City	R. 10
McDonald, D. H. . . .	Quincy	R. D			

Regular, 32; Eclectic, 7.

Parke County.

Anderson, Ellen	Rockville	P. M. D	Mater, J. D.	Bridgeton	R. D
Ball, James T.	Judson	R. D	McKey, M. H. W. . . .	Russell Mills . .	R. 10
Boyd, James M.	Bloomington . . .	R. D	Mendenhall, E. . . .	Sylvania	R. 10
Campbell, Anna B. . . .	Rockville	E. D	Martin, A.	Billmore	R. D
Caplinger, Chas	Marshall	R. 3	Morris, A. W.	Colema	R. D
Crooks, J.	Bridgeton	E. D	Mull, W. D.	Rockville	R. D
Dare, J. S.	Bloomington . . .	R. 10	Norman, James J. . .	Parkville	R. D
Darroch, W. P.	Hollandsburg . .	R. D	Purcell, Walter M . .	Rockville	R. D
Deverter, Geo. F. . . .	Howard	R. D	Powell, B. B.	Marshall	E. D
Doeley, R. L.	Armiesburg . . .	R. 3	Pear, H. J.	Billmore	R. D
Gillman, Wm. H. . . .	Rockville	R. 3	Rice, H. C.	Rockville	R. D
GO-S, MARION	Rockville	E. D	Reider, J. C.	Montezuma . . .	E. D
Goldsberry, J. A. . . .	Annapolis	R. D	Rodgers, H. C. . . .	Rockville	R. D
Hansell, David	Lena	R. 10	Stewart, H. W. . . .	Rosedale	R. D
Holman, W. B.	Howard	R. 10	Stone, W. O.	Rosedale	E. D
Hudson, B. F.	Montezuma	R. 10	Thomas, W. L.	Rockville	R. D
Lynch, J. V.	Rosedale	E. D	Vancleve, E.	Cadlin	R. 3
Morris, C. C.	Rockville	E. D	Williamson, W. N. . .	Sylvania	R. D
Myers, J. G. L.	Bloomington . . .	R. D	Williamson, A. A. . .	Sylvania	R. 3

Regular, 30; Physio-Medical, 1; Eclectic, 6; not reported, 1.

Perry County.

<i>Name.</i>	<i>Post Office.</i>	<i>School.</i>	<i>Name.</i>	<i>Post Office.</i>	<i>School.</i>
Brucker, C. M.	Tell City	E. D	LADD, C. W.	Cannelton	R. D
Bacon, J. D.	Troy	R. 10	Lee J. H.	Rome	R. D
Bennet, J. B.	Derby	R. 3	Lomax, Wm.	Bristow	R. D
Cluthe, William	Tell City	R. D	Melchi, F.	Tell City	R. D
Carnavan, J. W.	St. Croix	R. 3	Mitchell, F. A.	Cannelton	R. D
Cox, C. E.	Cannelton	R. 10	Ripperdam, J. H.	Rome	R. 10
Dome, D. C.	Troy	R. 10	Schellhase, F. W.	Tell City	H. D
Evans, F. A.	Tell City	E. 10	VanWinkle, S.	German Ridge.	R. 10
Foster, J. C.	Uniontown	E. D	Venneman, R. T.	Troy	R. D
Hendrixon, A. M. D.	Rome	R. D	Wedding, M. F.	Rome	R. D
Hutchason, W. H.	Cannelton	R. D	Webb, J. R.	Troy	E. 3
Howard, W. R.	Don Juan	R. 10			

Regular, 18; Eclectic, 4; Homeopathic, 1.

Pike County.

Adams, J. R.	Petersburg	R. D	Ireland, G. L.	Winslow	R. D
Baeinger, Thos. W.	Oatsville	R. D	Johnson, L. B.	Otwell	R. D
Bradley, J. M.	Winslow	R. D	Kime, Thos. J.	Petersburg	R. D
Bethell, Wm. J.	Winslow	R. 10	KIME, R. R.	Petersburg	R. D
Bergen, J. W.	Petersburg	R. D	Lance, J. T.	Spurgeon	R. D
Blythe, W. T.	Glezen	R. 3	Lamar, I. H.	Petersburg	R. D
Byers, A. R.	Petersburg	R. D	Link, Wm. H.	Petersburg	R. D
Coon, Nathaniel	Augusta	R. D	Osborn, Wm. R.	Spurgeon	R. D
Coleman, J. W.	Union	R. D	Pagin, Henry.	Velpen	E. D
Duncan, J. B.	Petersburg	R. D	Rhoads, A. J.	Pikeville	R. 10
DeMott, Wm.	Algiers	R. D	Russell, W. H.	Algiers	R. D
DeFar, David.	Winslow	R. D	Scheuck, H. F.	Oatsville	R. D
Ferguson, Jas. W.	Pikeville	R. 10	Smith, John T.	Glezen	R. D
Ferguson, Thomas	Spurgeon	R. 10	Stork, John H.	Stendal	R. D
Fullenwidner, C. H.	Petersburg	R. D	Taylor, James N.	Velpen	R. 10
Goodwin, John W.	Otwell	H. 10	Thomas, M. C.	Petersburg	H. 10
Hawkins, John	Petersburg	R. D	Turner, Martain V.	Winslow	R. 10
Harrington, Andrew	Velpen	R. 10	Ward, J. P.	Union	R. D
Harris, R. W.	Algiers	R. D	Woodward, L. E.	Winslow	R. D
Hilsmeyer, Louis H.	Stendal	R. D			

Regular, 33; Eclectic, 3; Homeopathic, 2.

Porter County.

Arnold, Geo. W.	Wheeler	R. D	Loring, D. J.	Valparaiso	R. D
Atkins, Lyman.	Kout	E. D	Betherman, A. P.	Valparaiso	R. D
Anderson, Elsie F.	Valparaiso	R. D	McCarthy, John E.	Valparaiso	R. D
Blackstone, John K.	Hebron	R. D	Noland, Philip D.	Kout	R. D
Blackstone, J. K., jr.	Hebron	R. D	Oakes, Omar	Wheeler	R. D
Beer, Henry M.	Valparaiso	R. D	Palmer, T. W.	Valparaiso	H. D
Corey, E. A.	Chesterton	R. D	Pratt, Samuel R.	Hebron	R. D
Coate, H. C.	Valparaiso	R. D	Pagin, Samuel	Valparaiso	E. D
Edmonds, Enos A.	Hebron	H. D	Ryan, John A.	Valparaiso	E. D
Elliott, H. G.	Valparaiso	H. D	Sayles, M. F.	Valparaiso	H. 10
Green, Hiram	Chesterton	R. 10	Vincent, S. W.	Valparaiso	E. D
Hubbard, R. B.	Hebron	E. D	Wood, O. S.	Valparaiso	E. D
Jones, E. J.	Hagerman	R. D	Willings, S. J.	Wheeler	R. D
Kellogg, Chas.	Chesterton	E. D	JOHN, WM. S.	Valparaiso	R. D

Regular, 17; Eclectic, 7; Homeopathic, 4.

Posey County.

<i>Name.</i>	<i>Post Office.</i>	<i>School.</i>	<i>Name.</i>	<i>Post Office.</i>	<i>School.</i>
Allen, Leroy R. . .	Cynthiana . . .	E. 3	Kransgrill, D. . . .	Waderville . . .	R. D
Brydon, J. F. . . .	Griffin	R. 3	Murphy, Edward. .	New Harmony . .	R. D
Bucklin, Geo. W. .	New Harmony . .	R. D	Neal, Daniel	New Harmony . .	R. 10
Cosby, L. B.	Cynthiana . . .	R. 3	Neal, Benjamin . . .	New Harmony . .	R. D
Carter, Virgil R. .	Cynthiana . . .	E. D	Ottman, P.	Mt. Vernon . . .	R. D
Creemeas, W. C. . .	Grafton.	E. D	Pearse, S. H.	Mt. Vernon . . .	R. D
Dailey, T. J.	Poseyville . . .	R. 10	Powell, J. W.	Mt. Vernon . . .	R. E
Deutsdorff, H. B. .	Parker's Set'm't R. 10		Peckinpaugh, G. R. .	Mt. Vernon . . .	R. D
Dixon, R. S.	Mt. Vernon . . .	H. 10	Rawlings, S. O. . . .	New Harmony . .	R. D
Elliott, Cyrenius, Sr	Poseyville . . .	R. 10	Rutter, John	Cynthiana	E. D
Elliott, Cyrenius, Jr	Blairsville . . .	R. 3	Royster, Floyd . . .	Mt. Vernon . . .	R. D
Gudgel, James E. . .	Cynthiana . . .	R. D	RAMSEY, D. C. . . .	Mt. Vernon . . .	R. D
Gammon, D. A. . . .	Solitude	R. D	Spencer, E. V.	Mt. Vernon . . .	R. D
Glaze, L. A.	Poseyville . . .	R. D	Smyth, R.	Mt. Vernon . . .	R. D
Glaze, J. M.	New Harmony . .	R. D	Seitz, J. R.	West Franklin . .	R. D
Gettings, C. C. . . .	Grafton.	R. 10	Smith, George C. . . .	Cynthiana	R. D
Goodwin, E. J. . . .	Mt. Vernon . . .	R. D	Stuart, Albert L. . . .	Blairsville . . .	R. D
Holton, W. M.	New Harmony . .	R. D	Williams, G. B. . . .	Grafton.	R. 3
Hicks, C.	Caborn	R. D	Wilson, Thomas W. . .	New Harmony . .	R. D
Huston, J. C.	Mt. Vernon . . .	R. D	Wilson, John B. . . .	Stewartsville . .	R. D
Harper, John.	Mt. Vernon . . .	R. D	Welborn, George W. .	Stewartsville . .	R. D
Hensler, Ernst . . .	West Franklin . .	R. 3	Welch, Walter	Mt. Vernon . . .	R. D
Henderson, S. C. . .	St. Philip. . . .	R. D	Young, Thomas B. . .	Poseyville	R. D

Regular, 41; Eclectic, 4; Homeopathic, 1.

Pulaski County.

Brown, Stephen I. .	Francesville . .	R. D	Pattison, H. E. . . .	Winamac	R. D
Buck, Felix J. . . .	Oak P. O.	R. 3	Pugh, John W.	Pulaskiville P. .	M. D
Huey, Robert B. . .	Star City	R. D	Sharrer, John C. . . .	Francesville . . .	R. D
Hoot, Prentiss L. .	Monterey	R. D	Steven, Henry C. . . .	Star City	P. M.
Jones, H. G.	Meadaryville . .	R. D	Thompson, G. W. . . .	Winamac	R. D
Kittinger, H.	Winamac	R. D	THOMAS, JOHN J. . .	Winamac	R. 10
Kelsey, Wm.	Monterey	R. D	Thompson, W. H. . . .	Winamac	R. D
Kelsey, W. E.	Monterey	R. D	Vaughn, Martin	Winamac	R. D
Moss, D. F.	Winamac	R. D	Thomas, McDonald A. .	Winamac	R. D
Osborn, James . . .	Star City	R. 10	Smith, E. G.	Winamac	R. 10

Regular, 18; Physio-Medical, 2.

Putnam County.

Allen, Chas. A. . . .	New Maysville . .	R. D	Mullinix, P.	Cloverdale	R. 3
BENCE, GEO. W. . .	Greencastle . . .	R. D	Moore, A. H.	Clinton Falls . .	R. D
Bastin, J. V.	Belle Union . . .	R. D	McCandless, A. S. . .	Roachdale	R. D
Brasier, T. T. . . .	Greencastle . . .	R. 3	McCarty, W. F.	Greencastle . . .	R. D
Cully, J. F.	Bambridge	R. D	Newgent, R. P.	Clinton Falls . .	R. 10
Colliver, R. T. . . .	Roachdale	E. D	Prichard, W. K.	Cloverdale	R. D
De Vore, H. V. . . .	Greencastle . . .	R. D	Preston, J. L.	Cloverdale	R. D
Dooley, R. L.	Russellville . . .	R. 3	Poole, Geo. W.	Russellville . . .	R. D
Denny, Wm. M. . . .	Greencastle . . .	R. 10	Robinson, J. H.	Coatsville	R. D
Evans, E. B.	Greencastle . . .	R. D	Rogers, Dudley	Greencastle . . .	R. D
Farver, Geo. W. . . .	Bainbridge	R. D	Smythe, G. C.	Greencastle . . .	R. D
Gillespie, J. F. . . .	Reelsville	R. D	Stanley, L.	Fincastle	R. D
Hanna, L. M.	Greencastle . . .	R. D	Slavens, John	Brick Chapel . .	R. D
Harris, W. C.	Carpentersville .	R. D	Spurgeon, B. F.	Mt. Meridian . .	R. D
Hill, W. D.	Greencastle . . .	H. 10	Smith, N. G.	Greencastle . . .	E. D
Horn, A. H.	Putnamville . . .	R. D	Smythe, A. E.	Greencastle . . .	R. D
Hawkins, E.	Greencastle . . .	R. D	Throop, Geo. A.	Greencastle . . .	R. 10
Hamilton, R. S. . . .	Portland Mills . .	R. 10	Taylor, Mary J.	Greencastle . . .	H. D
Harvey, J. W.	Russellville . . .	R. 10	Taylor, Geo. W.	Greencastle . . .	H. 10
Hunt, T.	Greencastle . . .	R. D	Towey, J. T.	Russellville . . .	H. D
Knight, J. M.	Greencastle . . .	E. D	Terrell, W. H.	Fillmore	R. D
Leatherman, J. R. . .	Greencastle . . .	R. D	Wood, N. S.	Roachdale	R. D
Lammers, F. H. . . .	Greencastle . . .	R. D			

Regular, 39; Eclectic, 3; Homeopathic, 3.

Randolph County.

<i>Name.</i>	<i>Post Office.</i>	<i>School.</i>	<i>Name.</i>	<i>Post Office.</i>	<i>School.</i>
Alexander, R. P.	Winchester	P.-M. 10	Hunt, H. C.	Trenton	E. 3
Alexander, P. B.	Winchester	P.-M. 10	Heiner, J.	Arba	R. D
Abel, Oscar E.	Winchester	R. D	Keller, Frank, G.	Spartansburg	R. D
Botkin, John W.	Unionport	E. 10	Kelley, C. M.	Winchester	R. D
Botkin, Thomas W.	Unionport	E. 3	Markie, J. E.	Winchester	R. D
Bruce, G. W.	Winchester	R. 10	Milligan, C. E.	Winchester	P.-M. D
Bosworth, R.	Winchester	R. D	Moroney, J. H.	Carlos City	R. D
Ballard, A. B.	Deerfield	R. D	Mills, C. C.	Losantville	R. D
Berry, J. S.	Spartansburg	R. D	McFarland, Norman	New Pittsburg	E. 10
Blair, J. S.	Lynn	R. D	Nixon, John	Farmland	R. D
Chenoweth, N. T.	Windsor	R. D	Noffsinger, Henry	Union City	E. D
Chenoweth, J. T.	Winchester	R. D	Owens, J. K.	Harrisville	R. 3
CHENOWETH, F. A.	Winchester	R. D	Purcell, John	Deerfield	R. D
Commons, Wm.	Union City	R. D	Proctor, J. A.	Union City	P.-M. 10
Cox, C. R.	Lynn	R. D	Rogers, A. G.	Parker	R. D
Carter, D. M.	Modoc	R. D	Rickard, W. A.	New Pittsburg	E. D
Carver, J. M.	Winchester	R. 10	Remmel, Sylvania	Winchester	P.-M. 10
Clark, J. M.	Modoc	R. 10	Rubey, S. B.	Union City	R. 3
Davis, L. N.	Farmland	R. D	Reynard, G.	Union City	R. D
Evans, J. J.	Winchester	R. 10	Reynard, E. G.	Union City	R. D
Evans, C. S.	Union City	R. D	Reeves, J. L.	Union City	E. D
Frederick, G. W.	Ridgeville	R. D	Simmons, W. D.	Union City	E. D
Farquhar, A. H.	Ridgeville	R. D	Shoemaker, W. J.	Ridgeville	R. 10
Franks, H. P.	Losantville	R. D	Spittler, C. E.	Saratoga	R. D
Fager, C. M.	Fairview	R. 10	Smith, C.	Farmland	E. D
Fisher, M. L.	Winchester	P.-M. D	Smith, W. G.	Winchester	R. D
Flower, Bartina	Union City	P.-M. D	Thompson, G. W.	Union City	E. 10
Gustin, F. M.	Union City	H. D	Thompson, Val.	Union City	E. 10
Huddleston, A. F.	Winchester	H. D	Tisor, W. R.	Rural	R. 10
Harrison, H.	Union City	E. D	Welbourne, E. L.	Union City	E. D
Hunt, P.	Farmland	E. 10	Welbourne, O. C.	Union City	E. D
Hiatt, J. A.	Ridgeville	E. D	Yergin, H. H.	Union City	R. D
Hiatt, C. C.	Ridgeville	E. D			

Regular, 39; Eclectic, 17; Homeopathic, 2; Physio-Medical, 7.

Ripley County.

Abbott, Mano	Milan	E. D	Miller, Albert G.	Elrod	E. D
Anderson, James	Versailles	R. D	Newforth, Christian	Sunman	R. D
Brown, Charles M.	New Marion	R. D	Parsons, George E.	Milan	E. D
Clark, Freeman	Rei	R. D	ROBINSON, John M.	Versailles	R. D
Cass, Chester H.	Holton	R. D	Roberts, Jeremiah	Holton	R. D. 3
Davis, James R.	Morris	R. D	Redlon, Daniel M.	Pierceville	R. D
Edsell, Harry P.	Napoleon	R. D	Ratcliff, J. T.	Morris	R. D
Freeman, Edward D.	Osgood	R. D	Rowe, Geo. S.	Osgood	R. D
Freeland, John P.	Sunman	R. D	Sweezy, John M.	Cross Plains	E. 10
Hicks, John C.	Napoleon	P.-M. D	Schlosser, Geo. F.	Batesville	R. 10
Hess, John A.	New Marion	R. D	Sweezy, Frank C.	Cross Plains	E. D
Holbert, Wm. M.	Elrod	R. D	Townsend, Samuel B.	Osgood	R. D
Jones, John G.	Versailles	R. D	Townsend, Reece C.	Osgood	R. D
Kretzmier, I. M.	Batesville	R. D	Vincent, Edwin B.	Sunman	R. D
Lamb, James F.	Rei	E. D	Wells, H. A.	Milan	R. D
Miller, Robert H.	Cross Plains	R. D	Zitzeke, Joseph	Batesville	R. D

Regular, 25; Eclectic, 6; Physio-Medical, 1.

Rush County.

Arnold, John	Rushville	R. D	Moffett, John	Rushville	R. D
Behr, E. H.	Rushville	E. D	Megee, W. N.	Rushville	R. D
Bogart, H. J.	Carthage	R. 10	Megee, Omar	Rushville	R. D
Barnum, W. E.	Manilla	R. D	Linn, H. J.	Rushville	H. D
Crippen, E. H.	Milroy	R. D	Louden, Lucien A.	Manilla	R. D
Coffin, O. S.	Carthage	E. D	Orr, J. P.	Glenwood	R. D
Dillon, J. C.	Rushville	R. D	Pugh, Wm. A.	Rushville	R. D
Dillon, Otto P.	Rushville	R. D	Parson, C. H.	Rushville	R. D
Dean, D. H.	Rushville	H. D	Porter, W. J.	Carthage	R. D
Elliott, H. H.	Glenwood	E. 10	Rucker, T. H.	Arlington	E. 10
Gilbert, Chas. H.	Rushville	H. D	Ross, L. G.	Raleigh	R. 10
Green, J. C.	Arlington	R. D	Sexton, Marshall	Rushville	R. D
GREEN, LOT.	Rushville	R. D	Sexton, J. C.	Rushville	R. D
Gibson, Mathew	Rushville	E. D	Smith, W. H.	Rushville	R. D
Gordon, Wm. S.	Raleigh	P.-M. D	Smith, W. C.	Rushville	R. D
Huckleman, F. G.	Rushville	R. D	Sparks, J. B.	Carthage	E. D
Hargrove, W. S.	New Salem	R. D	Spurrier, John H.	Rushville	R. D
Hebbs, O. W.	Mays	R. D	Smullen, C. L.	Groves	R. D
Inlow, John J.	Manilla	R. 10	Surface, O. B.	Henderson	R. 3
Kirkpatrick, Alva	Gings	R. D	Tavis, L. W. S.	Moscow	R. 10
McMahan, S. W.	Rushville	R. D	Wooten, E. I.	Homer	R. D
McYanghey, John	Arlington	R. D			

Regular, 34; Eclectic, 5; Homeopathic, 3; Physio-Medical, 1.

Scott County.

Name.	Post Office.	School.	Name.	Post Office.	School.
Biery, T. F.	Scottsburg	R. D	Martin, T. J.	Nobb	R. D
Blotcher, J. B.	Blotcher	R. D	Sarver, J. A.	New Frankfort. R. D	R. D
Casey, H. R.	Austin	R. D	Smith, L. H.	Lexington	R. D
Green, W. E.	Lexington	E. 10	Warmoth, G. M. . . .	Scottsburg	R. D
Houghland, M. E. M. .	Vienna	R. 10	WATSON, J. M.	Scottsburg	R. D
Lathrop, A. H.	Lexington	R. D			

Regular, 10; Eclectic, 1.

Shelby County.

Abermather, A. A. . .	Morristown. . . .	R. 10	Lowder, John	Carlton.	E. D
Adams, James, M. . .	Noah	10	Leech, Elliot W. . . .	Shelbyville. . . .	E. D
Bowby, Joseph	Noah	R. D	Louden, L. A.	London.	R. 3
Baylor, Walker, K. . .	Sulphur Hill . . .	10	McCrea, R. S.	Morristown. . . .	R. D
Ballard, D. J.	Waldron	R. D	McFadden, Wm. G. . .	Shelbyville. . . .	R. D
Bentley, W. R.	Morristown. . . .	R. D	Maddox, J. F.	Shelbyville. . . .	E. D
Black, Frank B.	Bengal	E. D	Parrish, J. W.	Shelbyville. . . .	E. D
Bruce, Wm. E.	Shelbyville. . . .	H.	Pettigrew, D. A. . . .	Flat Rock	R. D
Connelly, Henry M. . .	Flat Rock	R. D	Perry, John	Shelbyville. . . .	R. D
Crippen, Edwin H. . .	Blue Ridge. . . .	R. 10	Posz, Margaret W. . .	Shelbyville. . . .	R. 10
Carter, James	Gwynnville	R. D	Pierson, Wm. M. . . .	Fountaintown. R. D	R. D
Cox, Thomas A.	Flat Rock	R. D	Rubush, Thomas R. . .	London.	R. D
Coleman, E. E.	Shelbyville. . . .	E. D	Randolph, Daniel F. .	Waldron	R. D
Drake, Morris	Shelbyville. . . .	R. D	Rucker, Jene W. . . .	Shelbyville. . . .	R. D
Drake, I. H.	Shelbyville. . . .	R. D	Stewart, James K. . .	Fairland	R. D
Dearmin, John H. . .	Brookfield	R. D	Smith, Hezekiah. . . .	Fairland	10
Ford, W. M.	Mt. Auburn	R. D	Stewart, John B. . . .	Marietta	R. 10
Floyd, R. M.	Shelbyville. . . .	R.	Sanford, Jas. H. . . .	Shelbyville. . . .	R. 10
Fleming, Geo. W. . . .	Shelbyville. . . .	R. D	Strickler, Stephen L. .	Bogstown.	E. D
Gilmore, Moses R. . .	Fairland	R. D	Snider, John W. . . .	Fairland	R. D
Green, James W.	Shelbyville. . . .	R. D	Steickhouse, Urban . .	Morristown. . . .	R. D
Green, James C.	Flat Rock	R. D	Shrout, Wm. T.	Blue Ridge. . . .	E. 10
Green, Thomas G. . . .	Shelbyville. . . .	R. D	Trees, J. W.	Smithland	R. D
Green, Wm. F.	Shelbyville. . . .	R. D	Taylor, John F.	Sulphur Hill . . .	R. D
Howard, J. W.	St. Paul.	R. 3	Tindall, C. A.	Shelbyville. . . .	E. D
Inlow, James E.	Blue Ridge. . . .	R.	Tull, Edward N.	Fairland	N. D
Jones, Thomas S. . . .	Shelbyville. . . .	R. D	Turney, —	Morristown. . . .	R. D
JENKINS, J. R.	Shelbyville. . . .	R. D	Wolf, Jacob G.	Morristown. . . .	R. D
Keeling, Wm. R.	Sulphur Hill . . .	E. D	Winter, Gustav G. . .	Shelbyville. . . .	N. R. 10
Kennedy, Sam'l A. . . .	Shelbyville. . . .	R. D	Whitzel, Frank F. . .	Morristown. . . .	R. D
Kennedy, Thomas C. . .	Shelbyville. . . .	R. D	Washburn, —	Waldron	R. 10
Lucas, I. N.	Shelbyville. . . .	H. D	Wendel, —	Sulphur Hill . . .	R. D

Regular, 48; Eclectic, 9; Homeopathic, 2; not reported, 6.

Spencer County.

Adye, George F.	Newtonville . . .	R. D	Jones, William M. . .	Gentryville. . . .	R. D
Anderson, E. M.	Huff	R. D	Killian, J. L.	Eureka	R. 10
Allenbaugh, E. E. . . .	Hatfield	R. D	Lucas, L. B.	Buffaloville . . .	E. D
Bryant, James B. . . .	Gentryville. . . .	R. D	Logsdon, Wm. T. . . .	Eureka	R. D
Bryant, W. S.	Dale	R. D	Lee, H. A.	Chrisney	R. D
Billart, F. W.	Chrisney	R. 10	Lang, Jacob	Lake	H. D
Buxton, J. L.	Rockport	E. D	Lamar, H. L.	Eureka	H. D
Butler, J. M.	Troy (Perry Co) . .	E. D	Myler, John M.	Eureka	R. D
Critchfield, J. S. . . .	Lamar	E. D	Maslowsky, Felix . . .	Mariah Hill	R. D
Dailey, J. M.	Rockport	R. D	McCoy, L. H.	Rockport	R. D
Dyer, A. S.	Huffman.	N. R. 10	McCoy, GEO. W. . . .	Chrisney	R. D
Ehrman, E. D.	Rockport	H. 3	McKasson, John W. . .	Gentryville. . . .	R. 10
Gatewood, T. H.	Midway	R. D	Schweizer, John J. . .	Santa Claus	R. 3
Hackelman, F. M. . . .	Rockport	E. D	Turpin, James	Newtonville	E. D
Harrison, E. P.	Rockport	N. R. 10	Tichenor, B. F.	Newtonville	R. D
Hunter, S. W.	Chrisney	R. 3	Wheeler, John T. . . .	Rockport	E. D
Hammond, D. M.	Grandview	R. D	Wright, Thomas	Midway	R. D
James, John B.	Buffaloville	E. 10	White, J. T.	Grandview	R. 3
Jolly, John C.	Lake	R. D	Williams, Wm. H. . . .	Dale	E. D
Johnson, T. J.	Dale	R. D	Williams, S. J.	Dale	E. D
John, B. E.	Newtonville	E. 10			

Regular, 24; Eclectic, 11; Homeopathic, 3; not reported, 2.

Starke County.

Name.	Post Office.	School.	Name.	Post Office.	School.
Abner, J. R.	Grovertown, P.	M. D	Henderson, A. H.	Knox	E. 10
Agnew, T. J.	San Pierre	R. D	Kelley, W. M.	Knox	R. D
Bonar, M. C.	Knox	R. 3	Nolan, Jas. T.	North Judson	R. D
BONAR, S. S.	Knox	R. 10	Riggle, G. W.	North Judson	R. 3
Burson, A. H.	Hamlet	E. 10	Strickman, Martin	Ora	E. 10
Coffin, Ellen	Davis	E. 10	Wright, M. R.	Knox	E. 10
Glasebrook, L. D.	Knox	R. 10			

Regular, 7; Eclectic, 5; Physio-Medical, 1.

Steuben County.

Abbott, Lyman	Fremont	R. D	LANE, W. H.	Angola	R. D
Brewn, B. N. E.	Hamilton	R. D	McNabb, T. B.	Fremont	R. D
Cameron, J. F.	Hamilton	R. D	Nichols, Henry A.	Flint	R. D
Clay, M. F.	Salem Center N. R.	R. D	Rausburg, M. V.	Salem Center	R. D
Dolph, C. M.	Pleasant Lake	R. D	Stauffer, E. R.	Fremont	R. D
Dunnigan, F. B.	Angola	R. D	Sherrow, Wm. E.	Salem Center	E. D
Fuller, S. H.	Pleasant Lake	R. D	Sanborn, P. P.	Angola	R. D
Goodale, C. W.	Mets.	R. D	Waller, W. H.	Angola	R. D
Gibbs, Oliver H.	Hamilton	E. D	Wood, H. D.	Angola	R. D
Hamilton, Frank	Hudson	10	Williams, T. B.	Angola	R. D
Helme, A. M.	Orland	10	Wood, T. F.	Metz	R. D
Keesler, George	Orland	H. D	Wood, S. A.	Angola	R. D
Leos, Emanuel R.	Angola	H. D	Wallace, J. F.	Orland	R. D
Lynch, R. H. S.	Crooked Creek	R. D			

Regular, 19; Eclectic, 5; Homeopathic, 1; not reported, 1.

St. Joseph County.

Arlington, J. W.	Walkerton	R. D	McAllister, E. W.	South Bend	R. D
Borough, John	Mishawaka	H. D	McDonald, Thos. T.	New Carlisle	R. 10
Brown, Jacob P.	South Bend	R. 10	Miller, A. G.	South Bend	R. 3
Berteling, J. B.	South Bend	R. D	MILLER, MARTIN	South Bend	H. D
Burkett, Wm.	Granger	R. D	Montgomery, H. S.	South Bend	R. D
Butterworth, C. W.	South Bend	R. D	Moore, John	Lakeville	R. 10
Cassidy, John	South Bend	R. D	Moore, Robt	Lakeville	R. 10
Chaffee, W. D.	South Bend	H. D	Meyers, C. H.	South Bend	H. D
Davis, Josephus	New Carlisle	R. D	Osborn, Margaret A.	South Bend	R. 10
Daugherty, C. A.	South Bend	E. D	Osborn, Geo. A.	South Bend	R. D
Drollinger, E. M.	South Bend	E. D	Partridge, J. M.	South Bend	H. D
Fink, Henry A.	South Bend	H. D	Pierce, Wm.	Oseola	R. 10
Godfrey, Julia D.	South Bend	H. D	Pagan, Daniel	South Bend	R. 10
Grimers, John H.	Mishawaka	E. D	Reese, J. M.	Walkerton	R. D
Grimers, Jas. F.	Mishawaka	R. 10	Rupp, P. E.	South Bend	R. 10
Green, J. B.	Mishawaka	R. 10	Sawyer, F. M.	South Bend	E. D
Harris, Robt.	South Bend	R. 10	Shaffer, A. F.	South Bend	R. D
Hanford, Wm. H.	South Bend	H. D	Stockwell, Sarah F.	South Bend	R. D
Hill, J. W.	South Bend	R. 10	Thope, A. L.	Mishawaka	R. D
Jay, Manuel	South Bend	R. D	Todd, Samuel	Woodland	R. D
Kimble, Cosenia	South Bend	R. 10	Varier, James	North Liberty	R. D
Kilmer, Sam'l L.	South Bend	R. D	Variper, A. N.	New Carlisle	R. D
McCool, A. W.	Walkerton	R. 10	Wickham, W. A. R.	South Bend	E. D
Mitchell, Chas. F.	South Bend	R. D	Woodworth, H. A.	Walkerton	R. 3
Mitchell, H. A.	Lakeville	R. D			

Regular, 37; Eclectic, 5; Homeopathic, 7.

Sullivan County.

Bennett, J. H.	Farmersburg	E. D	Lisman, W. A.	Carlisle	R. D
Briggs, C. F.	Sullivan	R. D	Lisman, S. J.	New Lebanon	R. D
Brown, N. S.	Dugger	R. 10	Lowder, C. M.	Dugger	R. D
Buskirk, J. S.	Shelburn	R. 10	Matthews, J. M.	Carlisle	R. D
Crowder, R. H.	Sullivan	R. D	Mayfield, T. B.	Pleasantville	R. D
Crawley, J. B.	Sullivan	E. D	Murphy, J. S.	Dugger	R. 3
Cushman, A.	Grayville	R. D	Osborn, S. D.	Shelburn	R. D
Delashmut, V. E.	Shelburn	R. D	Phillips, J. L.	Sullivan	R. 3
Deinson, E. D.	Carlisle	R. 10	Plew, G. F.	Hymers	R. D
Durham, J. L.	Grayville	R. D	Thompson, J. J.	Sullivan	R. 3
FRÉEMAN, JOS.	Sullivan	R. D	Thompson, W. N.	Sullivan	R. D
Elewing, W. A.	Pleasantville	R. D	Thralls, R. T.	Hymers	R. D
Harper, H. F.	Merom	R. D	Troxell, S. D.	Paxton	R. D
Harper, J. E.	Shelburn	R. 10	Vancelev, R. H.	Farmersburgh	R. D
Higbee, G. W.	Sullivan	H. D	Weir, S. D.	Sullivan	R. D
Higbee, J. L.	Sullivan	H. D	Whalen, D. M.	Carlisle	R. 10
Jenkins, R. L.	Carlisle	R. 3	Young, J. M.	Carlisle	R. D
Lisman, J. W.	Buell City	R. D	Wilson, Sam	Fairbanks	R. D

Regular, 32; Eclectic, 2; Homeopathic, 2.

Switzerland County.

Name.	Post Office.	School.	Name.	Post Office.	School.
Cheever, E. M. . . .	Querous Grove . . .	R. 10	Price, Oliver A. . . .	Florence	R. D
Clark, R. E.	Markland	R. D	Pryor, James A. . . .	Patriot	E. D
Copeland, R. M. . . .	Bennington	R. D	Rous, Hannah C. . . .	Vevay	R. D
Craig, Albert G. . . .	Vevay	R. D	Sage, P. S.	Vevay	R. 10
Calbertson, Scott . .	Moorefield	R. D	Shadday, John H. . .	Vevay	R. D
Dalgleish, H. T. . . .	Vevay	R. D	Simpson, R. G. . . .	Markland	R. D
Elfers, John	Sugar Branch . . .	R. D	Smith, J. W.	Vevay	H. D
Hayden, David N. . .	Mt. Sterling	R. 3	Vanosdol, J. W. . . .	Allensville	R. D
Jamison, R. A. . . .	Patriot	R. D	VAN PELT, GEO. W. . .	Vevay	R. D
Langedale, J. M. W. .	Florence	R. D	Woollen, Levin J. . .	Vevay	R. D
McMillen, Wm. . . .	Sugar Branch . . .	R. D	Walden, James B. . .	Mt. Sterling . . .	R. D
Olcott, W. A.	Patriot	R. D			

Regular, 21; Homeopathic, 2; Eclectic, 1.

Tippecanoe County.

Ackerman, August C.	Lafayette. . . .	H. D	Nesbit, Wm. Seward	Monitor	R. D
Anderson, Joseph H.	Colburn	R. D	Nivison, Alice C. . .	Lafayette. . . .	H. D
Baker, Joseph H. . .	Stockwell	R. D	O'Ferrall, Robert M.	Lafayette. . . .	R. D
Ball, James R. . . .	Clark's Hill . . .	R. D	Ogborn, Job O. . . .	Lafayette. . . .	E. 10
Barcus, Paul	Odell	R. D	Peters, Walter H. . .	Lafayette. . . .	R. D
Baugh, Samuel L. . .	Farmers' Inst . .	R. D	Potel, Christian . . .	Lafayette. . . .	R. D
Beasley, George F. . .	Lafayette. . . .	R. D	Powers, Ed. D. . . .	Lafayette. . . .	R. D
Boyd, Benj. H. . . .	Lafayette. . . .	R. D	Pyke, Albert D. . . .	Romney	R. D
Brown, W. W. C. . . .	Buck Creek. . . .	R. 10	Quick, Wm. R. . . .	Colburn.	R. D
Burns, George W. . .	No. 10.	E. 10	Riddle, H. D. . . .	Battle Ground. . .	R. D
Campbell, Wm. S. . .	West Point. . . .	R. D	Robinson, Robt. D. .	West Lafayette. . .	R. D
Charles, Robert E. . .	West Point. . . .	R. 10	Schaible, Emil . . .	Lafayette. . . .	R. D
Charter, John H. . .	Lafayette. . . .	R. D	Seawright, Sam'l R. .	Lafayette. . . .	R. D
Crider, George W. . .	Buck Creek. . . .	R. D	Shill, Charles W. . .	Lafayette. . . .	R. D
Crouse, J. H.	Dayton	R. D	Simison, John	Romney	R. 10
Dienhart, Michael . .	Lafayette. . . .	R. 10	Simison, J. Frank . .	Romney	R. D
Dunbar, James. . . .	Battle Ground . .	R. 10	Smith, J. M.	Lafayette. . . .	H. D
Fickel, J. M.	Stockwell	E. D	Snyder, Leander . . .	Lafayette. . . .	R. 10
Fox, Stiles R.	Lafayette. . . .	R. 3	Taylor, Wm. R. . . .	Clark's Hill . . .	R. D
Harbaugh, A. C. . . .	Octagon	R. D	Tea, Roger S.	Battle Ground . .	R. D
Hill, Wm. H.	Dayton	R. D	THR'KMORTON, G. . .	Lafayette. . . .	R. D
Hillis, James D. . . .	Lafayette. . . .	R. D	Tilson, Washburn . .	Lafayette. . . .	H. D
Hines, Fred T. . . .	West Lafayette. . .	R. D	Vinnedge, W. W. . .	Lafayette. . . .	R. D
Hoffer, Milton S. . . .	Lafayette. . . .	R. 3	Walker, Wm. S. . . .	Lafayette. . . .	R. D
Hufe, Carl	Lafayette. . . .	R. D	Washburn, Geo. W. . .	Lafayette. . . .	E. D
Ingersoll, B. F. . . .	Lafayette. . . .	R. D	Washburn, S. S. . . .	Lafayette. . . .	R. D
Irwin, Luther M. . . .	Lafayette. . . .	R. D	Webster, John C. . .	Lafayette. . . .	R. D
Keifer, George F. . . .	Lafayette. . . .	R. D	Wells, Albert A. . . .	Lafayette. . . .	R. D
Kirkpatrick, G. W. . .	Lafayette. . . .	R. 10	Westfall, Arthur B. .	Elston	R. D
Koonse, Jeremiah P. .	Lafayette. . . .	E. 10	Wetherill, R. B. . . .	Lafayette. . . .	R. D
Littell, John V. . . .	Lafayette. . . .	R. D	Yeager, J. W.	Odell	R. D
Mace, Wm. D.	Colburn	R. D	Yeakel, David T. . . .	Lafayette. . . .	R. D
Moffit, Wm. R. . . .	West Lafayette. . .	R. D	Yount, Silas T. . . .	Lafayette. . . .	R. D
Motter, Thos. S. . . .	Dayton	R. 10			

Regular, 58; Eclectic, 5; Homeopathic, 4.

Tipton County.

Axtell, Wm. H. . . .	Tipton	R. D	Louder, Wm. P. . . .	Tipton	R. D
Amos, Edward	Kempton	R. D	McCreary, Oliver P. .	Nevada	R. 3
Austin, Winsor	Windfall	R. 10	Newcomer, M. V. B. .	Tipton	R. D
Cochran, T. C. . . .	Sharpsville	R. D	Pitzer, Andrew B. . .	Tipton	R. D
Collins, Geo. M. . . .	Tipton	R. D	Repp, George R. . . .	Goldsmith	R. D
Cooper, John	Groomsville. P.-M.	D	Rubush, D. P. . . .	Sharpsville	R. 3
Doan, Nathan W. . . .	New Lancaster. R.	10	Read, Horace G. . . .	Tipton	R. D
DICKEY, A. S.	Tipton	R. D	Ross, L. N.	Ekin	E. 10
Downing, Sam'l G. . .	Hobbs	R. D	Rhoads, Anna E. . . .	Tipton	10
Goar, C. S.	Kempton	R. D	Stephenson, Jos. A. .	Kempton	R. 3
Grove, Jasper M. . . .	Tipton	R. 10	Spitzmesser, John L. .	Windfall	E. 10
Gossett, Lucy A. . . .	Kempton	E. D	Somers, Jos. A. . . .	Nevada	R. 10
Hilldrup, J. R. . . .	Windfall	P.-M. D	Tressidder, James T. .	Tipton	N. R. D
Huron, Willis B. . . .	Tipton	H. D	Vickrey, M. V. B. . .	Tipton	R. D
Jessup, John T. . . .	Curtisville	R. D	Welchell, Thomas C. .	Goldsmith	R. 10
King, Frank B. . . .	Windfall	R. D	Wood, George C. . . .	Tipton	R. D
Lindsay, Jas. P. . . .	Sharpsville	R. 10			

Regular, 25; Eclectic, 3; Homeopathic, 1; Physio-Medical, 2; not reported, 2.

Union County.

Name.	Post Office.	School.	Name.	Post Office.	School.
Fosdick, A. G.	Liberty	R. 10	Sigler, Geo. A.	Liberty	R. D
Hawley, A. D.	College Cor., O.	R. D	Shriner, W. W.	Liberty	E. 10
Kell, S. D.	Liberty	R. 10	Squires, A. E.	College Cor., O.	R. 10
Moore, H. H.	Liberty	R. D	Smith, J. A.	Brownsville	R. 10
Morris, J. E.	Liberty	R. D	THOMPSON, E. C.	Liberty	H. D
Pigman, G.	Liberty	R. D	Williams, O. N.	Lotus	H. 10

Regular, 3; Eclectic, 1; Homeopathic, 2; not reported, 1.

Vanderburgh County.

Achilles, F. W.	Evansville	R. D	Mason, C. H.	Evansville	R. D
Bacon, C. P.	Evansville	R. D	McClurkin, J. C.	Evansville	R. D
Bagley, B. W.	Vanderburgh Co.	R. D	McCoy, B. F.	Evansville	R. D
Bennett, A. T.	Evansville	R. D	McCoy, P. Y.	Evansville	R. D
Binkley, J. T.	Evansville	R. D	McMahon, C. Agnes	Evansville	R. D
Bitz, L. B.	Evansville	R. D	McKee, H. John	Evansville	R. D
Biddle, E. D.	Evansville	R. D	Miehhausen, M.	Evansville	R. D
Blount, J. F.	Evansville	R. D	Moore, D. A.	Evansville	E. 3
Bray, M. J.	Evansville	R. D	Mounton, C. G. R.	Vanderburgh Co.	R. D
Brose, L. D.	Evansville	R. D	Norman, Seaton	Evansville	R. D
Bryan, A. H.	Evansville	R. D	Owen, A. M.	Evansville	R. D
Bryan, Tony	Evansville	R. D	Owen, John E.	Evansville	R. D
Buckner, G. W.	Evansville	E. D	Ottman, P.	Evansville	R. D
Busse, Edward	Evansville	R. D	Ocklman, C. L.	Vanderburgh Co.	R. D
Carter, E. L.	Evansville	R. D	Pirnat, John	Evansville	R. D
Clippinger, W. F.	Vanderburgh Co.	R. D	Pollard, Wm. S.	Evansville	R. D
Compton, J. W.	Evansville	R. D	Powell, T. E.	Evansville	R. D
Compton, Fred	Evansville	R. D	Pritchett, W. S.	Evansville	R. D
Corlew, R. M.	Evansville	R. D	Ralston, W. H.	Evansville	R. D
Cosby, G. P.	Evansville	R. D	Reavis, W. J.	Evansville	R. D
Clark, John E.	Evansville	R. D	Rose, W. B.	Evansville	R. D
Cox, David A.	Evansville	R. D	Ruark, Thomas H.	Evansville	R. D
Davis, F. L.	Evansville	H. D	Rucken, Thomas H.	Evansville	R. D
Day, B. J.	Evansville	R. D	Rea, Wm. D.	Evansville	R. D
Dixon, H. T.	Evansville	R. D	Schultz, Theodore	Evansville	H. 10
Doyle, John	Evansville	R. D	Schuyler, P. L.	Evansville	R. D
Dubois, J. M.	Vanderburgh Co.	R. D	Stieffert, A. H. H.	Evansville	R. D
Elliot, Cy. Jr.	Vanderburgh Co.	R. 10	Snyder, C. S.	Evansville	R. D
Fritsch, Ludwig	Evansville	R. 10	Spencer, E.	Evansville	R. 10
Fritsch, Wm. A.	Evansville	R. D	Spinney, A. B.	Evansville	R. D
Gilbert, George	Evansville	R. 10	Storkhouse, U.	Evansville	R. D
Gilbert, Wm. H.	Evansville	R. D	Taylor, T. H.	Evansville	H. D
Glover, John F.	Evansville	R. D	Tyrell, C. C.	Evansville	H. D
Graham, J. J.	Evansville	E. 10	Tillman, M.	Evansville	R. 10
Gumaer, C. H.	Evansville	R. D	Thomas, A. G.	Vanderburgh Co.	R. D
Hartloff, Richard	Evansville	R. D	Varnier, George W.	Evansville	R. D
Hayden, A. M.	Evansville	R. D	Viche, Casper H.	Evansville	R. D
Herr, L. S.	Evansville	H. D	Vaughan, G. T.	Evansville	R. D
Hodson, G. P.	Evansville	R. D	Vincent, W. F.	Evansville	R. D
Heuser, Ernst	Evansville	R. D	Walker, Ed.	Evansville	R. D
Hubbard, H. C.	Evansville	R. D	Watson, W. D.	Evansville	R. D
Hayhurst, A. S.	Evansville	R. 10	Watkins, R. B.	Evansville	R. D
Hayward, Thom	Evansville	R. D	Walters, H. J.	Vanderburgh Co.	R. D
Henderson, S. C.	Vanderburgh Co.	R. D	Weever, J. B.	Evansville	R. D
Hooker, H. H.	Vanderburgh Co.	R. 10	Wilde, O. E.	Evansville	R. 10
Illinz, A. F.	Evansville	R. 10	Williams, Floyd	Evansville	R. D
JACOBSON, JOS.	Evansville	R. D	Wilton, Josiah	Evansville	R. D
Kerth, I. H.	Evansville	R. D	Wittings, A. P.	Evansville	R. D
Knapp, Charles	Evansville	R. D	Weber, Wm.	Evansville	R. 10
Laval, Wm. J.	Evansville	R. D	Werz, T.	Evansville	R. D
Linthicum, Ed.	Evansville	R. D	Worsham, L.	Evansville	R. D
Macer, Thomas	Evansville	E. D	Young, G. M.	Evansville	R. D
Maghee, Wm. H.	Evansville	R. D	Zaring, Strause C.	Vanderburgh Co.	R. D

Regular, 98; Eclectic, 3; Homeopathic, 5.

Vermillion County.

Name.	Post Office.	School.	Name.	Post Office.	School.
Aikman, Edgar . . .	Clinton . . .	R. D	Mack, Erastus . . .	Hillsdale . . .	E. 10
Bogart, John H. . .	Clinton . . .	R. D	McNeal, George H. .	Perrysville . . .	R. 10
Barnes, James A. . .	Gessie . . .	R. D	Morton, W. C. P. . .	Hillsdale . . .	R. 10
Flanagher, E. A. . .	Cayuga . . .	R. D	Nebiker, Henry . . .	Clinton . . .	R. D
HALL, M. L. . . .	Newport . . .	R. D	Newton, G. O. . . .	Dana . . .	R. D
Hall, W. I.	Gessie . . .	R. D	Patterson, W. P. . .	Toronto . . .	R. 3
Harrison, John C. .	Hillsdale . . .	E. 10	Pinson, James . . .	Clinton . . .	R. 10
Hord, Thomas C. . .	Dana . . .	R. D	Shepard, Hiram . . .	Dana . . .	R. D
Johnson, David B. .	Perrysville . .	R. 10	Shepard, Lewis . . .	Quaker Hill . .	R. D
Keyes, Otis M. . . .	Dana . . .	R. D	Smith, Elmer M. . .	Cayuga . . .	R. D
Kindermann, Alex. .	Eurene . . .	R. D	White, Chas. M. . .	Clinton . . .	R. D
Lowndale, Thos. N. .	St. Bernice . .	R. D	Wallace, James . . .	Newport . . .	R. D
Loomis, E. C. . . .	Perrysville . .	R. 3	Webb, James B. . . .	Perrysville . . .	R. 10

Regular, 24; Eclectic, 2.

Vigo County.

Armstrong, Wm. P. .	Terre Haute . .	R. D	Melton, Seth B. . .	Burnett . . .	R. 3
Askern, Cort. F. . .	Terre Haute . .	R. D	Moorehead, Thos. W.	Terre Haute . .	R. D
Bell, Will E. . . .	Terre Haute . .	R. D	Matt'x, Wm. R. . . .	Terre Haute . .	R. D
Baldrige, John H. .	Terre Haute . .	E. D	Moore, Wilmot. . . .	Terre Haute . .	R. D
Ball, Cutler T. . . .	Terre Haute . .	R. D	Mann, Henry D. . . .	Terre Haute . .	R. D
Baker, Wm. H. . . .	Terre Haute . .	H. D	Mason, John C. . . .	Terre Haute . .	R. D
Brinlette, Samuel L.	Lewis P. O. . .	R. D	Mason, C. A. . . .	Terre Haute . .	R. D
Brook, Leonides G. .	Fontanet . . .	R. D	Morgan, John H. . .	New Goshen . .	R. D
Belt, Richard. . . .	Sandford . . .	E. D	Moore, James A. . .	Prairie Creek . .	R. D
Brown, Theodore F. .	Sandford . . .	R. 10	McCorkle, Thomas H.	Ellsworth . . .	R. D
Bennett, Stephen M. .	New Goshen . .	E. D	McClain, Leslie . . .	Terre Haute . .	R. D
Ball, Lawrence S. . .	Prairieton . . .	E. D	McCain, Thomas J. .	Terre Haute . .	R. D
Brunker, James W. .	Riley P. O. . .	R. D	McLaughlin, James .	Seesleyville . .	R. D
Crowley, Thomas N. .	Terre Haute . .	R. D	McJohnson, A. D. . .	Pimento . . .	R. D
Cole, J. H.	Terre Haute . .	R. D	Nobergall, James W.	Prairie Creek . .	R. 10
Crapo, George W. . .	Terre Haute . .	R. D	Ogle, Jacob W. . . .	Prairieton . . .	R. D
Crapo, John R. . . .	Terre Haute . .	R. D	Preston, Samuel C. .	Terre Haute . .	R. D
Calwell, H. H. . . .	Terre Haute . .	R. 10	Pike, Lyman	Terre Haute . .	E. 10
Cole, Willis H. . . .	Terre Haute . .	R. D	Pence, Allen	Terre Haute . .	E. 10
Cavins, Riley W. . .	Terre Haute . .	R. D	Pinson, Andrew J. . .	New Goshen . .	R. D
Carson, Julien C. . .	Middletown . .	R. 3	Price, W. S.	Atherton . . .	R. 3
Collins, Wm. O. . . .	Pimento . . .	R. D	Pinson, Thomas A. .	New Goshen . .	R. D
Carson, Lewis E. . .	Prairieton . . .	R. D	Rowe, James C. . . .	Coal Bluff . . .	R. D
Doerr, John E. . . .	Terre Haute . .	R. D	Roberts, W. H. . . .	Terre Haute . .	R. D
Dooley, Rufus L. . .	Atherton . . .	R. 3	Rice, Spencer M. . .	Terre Haute . .	R. D
Dolson, James H. . .	Pimento . . .	R. 10	Richardson, Sam C. .	Terre Haute . .	P. M. D
Drake, Thomas G. . .	Prairieton . . .	R. D	Russell, Charles W. .	Terre Haute . .	R. D
Drake, Thomas A. . .	Prairieton . . .	R. D	Swafford, E. F. . . .	Terre Haute . .	R. D
Drake, James F. . . .	Prairieton . . .	R. D	Spain, A. W.	Terre Haute . .	R. D
Davis, John W. . . .	Pimento . . .	R. D	Shaley, Fred. W. . .	Terre Haute . .	R. D
Dowell, Solomon . .	Middletown . .	E. 10	Stunkard, Thomas C.	Terre Haute . .	R. D
Elder, Wm. R. . . .	Terre Haute . .	H. D	Spottswood, E. F. . .	Terre Haute . .	R. D
Eichelberger, Wm. C.	Terre Haute . .	R. D	Schell, Walker . . .	Terre Haute . .	R. D
Erskine, Amos C. . .	Terre Haute . .	R. D	Swap, John H. . . .	Sandford . . .	R. 10
Gerstmeyer, C. P. . .	Terre Haute . .	R. D	Shickel, John T. . .	Terre Haute . .	R. 10
Glover, E. E. . . .	Terre Haute . .	R. D	Smith, E. W.	Fontanet . . .	E. D
Given, Chas. C. . . .	Lewis P. O. . .	R. D	Stark, W. I.	Fontanet . . .	H. D
Graham, Franklin B.	Farmersburg . .	R. D	Stock, Lewis	Lewis P. O. . .	E. D
Griffith, Lewis C. .	Lockport . . .	R. D	Standaker, Albert . .	Terre Haute . .	R. 3
Hardy, Hiram	Terre Haute . .	R. D	Thompson, H. H. . .	Terre Haute . .	H. D
Hickman, Cornelius .	Fontanet . . .	R. D	Tomlin, Ben	Terre Haute . .	R. D
Hyde, John	Terre Haute . .	H. 3	Thompson, M. H. . .	Prairie Creek . .	R. 10
Hanes, David	Terre Haute . .	E. 10	Talbott, John M. . .	Prairie Creek . .	R. 10
Haworth, W. W. . . .	Terre Haute . .	R. D	Willien, Leon J. . . .	Terre Haute . .	R. D
Hunt, John S. . . .	Maxville . . .	R. D	Waters, Moses H. . .	Terre Haute . .	H. D
Huff, John H. . . .	Sandford . . .	R. 10	WEINSTEIN, L. J. . .	Terre Haute . .	R. D
Jenkins, Wilbur O. .	Terre Haute . .	R. D	Worrell, J. P. . . .	Terre Haute . .	R. D
Kennedy, Thos. W. .	Lewis P. O. . .	R. D	Willis, James R. . . .	Terre Haute . .	R. D
Langhead, James T. .	Terre Haute . .	R. D	Wilson, A. L. Moore .	Terre Haute . .	H. D
Larkins, Edgar L. . .	Terre Haute . .	R. D	Watkins, Samuel . . .	Terre Haute . .	R. D
Link, John E.	Terre Haute . .	R. D	Weymann, Gustav A. .	Terre Haute . .	R. D
Leachman, James S. .	Burnett	R. D	Young, Stephen . . .	Terre Haute . .	R. D
Lloyd, Thomas A. . .	Prairieton . . .	R. D	Zimmerman, C. F. . .	Terre Haute . .	R. D

Regular, 88; Eclectic, 10; Homeopathic, 7; Physio-Medical, 1.

Wabash County.

Name.	Post Office.	School.	Name.	Post Office.	School.
Ader, Henry . . .	Somerset . . .	R. D	Mooney, H. C. . .	Laketon . . .	R. D
Alexander, Wm. P. .	Rich Valley . .	E. D	Modricker, J. M. .	Wabash . . .	R. 10
Blount, R. F. . .	Wabash . . .	R. D	Moore, P. G. . .	Wabash . . .	R. D
Biggerstaff, J. T. .	Lagro . . .	R. 3	Murphy, D. I. . .	Wabash . . .	P. M. D
Broadbeck, G. H. .	Roan . . .	R. D	Lower, M. O. . .	N. Manchester .	R. D
Brady, T. R. . .	Wabash . . .	R. D	Lancaster, T. A. .	N. Manchester .	R. D
Brady, C. C. . .	Lincolnvill. . .	R. D	McGrew, W. H. . .	Lafontaine . . .	E. D
Bricker, Wm. . .	Lincolnvill. . .	E. 3	O'Neal, Laughlin .	Somerset . . .	R. D
Bloomer, F. H. . .	Lagro . . .	R. D	O'Neal, Orin . . .	Somerset . . .	R. D
Dicken, J. L. . .	Lafontaine . . .	R. D	Renner, J. H. . .	Lagro . . .	R. D
Dicken, C. L. . .	Lafontaine . . .	R. D	Renner, M. E. . .	Urbanna . . .	R. D
Donaldson, E. F. . .	Wabash . . .	R. D	Smith, A. J. . .	Wabash . . .	R. D
Dederick, Wm. . .	Roan . . .	H. 10	Smith, Mrs. L. F. .	Wabash . . .	R. D
Ellis, Chas. S. . .	Wabash . . .	R. 10	Studley, J. W. . .	Lafontaine . . .	R. D
Ginther, David . .	N. Manchester .	E. 10	Shaffer, Philip . .	N. Manchester .	R. D
Goshorn, David G. .	N. Manchester .	E. 10	Stradley, D. W. . .	Wabash . . .	R. 10
FORD, J. H. . .	Wabash . . .	R. D	Shellhamer, D. C. .	Puckerbrush . .	E. D
Hale, M. M. . .	Wabash . . .	R. D	Steward, J. W. G. .	Wabash . . .	H. D
Hale, N. T. . .	Wabash . . .	R. D	Steward, Wm. R. .	Wabash . . .	H. D
Howser, B. G. . .	Somerset . . .	R. D	Steward, Wm. F. .	Wabash . . .	H. D
Howser, J. A. . .	Somerset . . .	R. D	Sowers, J. H. . .	Disco . . .	R. D
Kidd, G. P. . .	Roan . . .	R. D	Wells, Wm. Y. . .	Laketon . . .	R. D
Kantz, John . . .	Lagro . . .	R. D	Winton, Horace . .	N. Manchester .	R. D
King, C. H. . .	Wabash . . .	R. D	Willson, James . .	Wabash . . .	R. D

Regular, 37; Eclectic, 6; Homeopathic, 4; Physio-Medical, 1.

Warren County.

Campbell, T. B. . .	W. Lebanon . .	R. D	Roseberry, I. A. . .	Independence . .	R. 10
DeHart, Jacob . . .	Williamsport . .	R. D	Stewart, J. C. . . .	Marshfield . . .	R. D
Fenton, S. C. . .	Williamsport . .	R. D	Wick, Wm. . . .	Green Hill . . .	E. D
Fleming, J. W. . .	W. Lebanon . .	R. 10	Watson, J. R. . . .	W. Lebanon . . .	R. D
McMullen, J. W. . .	Pine Village . .	R. 3	WANK, LEROY . . .	Williamsport . .	R. D
Osborn, S. N. . .	Williamsport . .	R. D	Porter, A. M. . . .	State Line . . .	R. 10
Trent, J. H. . .	Marshfield . . .	R. 10			

Regular, 12; Eclectic, 1.

Warrick County.

Aust, F. T. . .	Tennyson . . .	R. 3	Moganheimer . . .	Elberfeld . . .	R. D
Beeler, Jerome S. .	Boonville . . .	H. D	Mills, W. H. . . .	Folsomville . . .	R. D
Brown, Lee. . .	Heilman . . .	R. D	McCoy, T. J. . . .	Rby. . . .	R. 10
Brown, A. P. . .	Wheatonville . .	R. 3	McCool, H. T. . . .	Chandler . . .	R. D
Baldwin, I. J. . .	Lyngville . . .	R. D	McVey, W. H. . . .	DeGonic . . .	R. 10
Camp, Joseph W. . .	Lynnville . . .	E. 10	Newton, J. A. . . .	Boonville . . .	H. 10
Camp, Geo. H. . .	Lynnville . . .	E. 10	Quiatt, Alison . . .	Tennyson . . .	R. 10
Camp, W. F. . .	Lynnville . . .	E. 3	Rhodes, K. R. . . .	Yanketown . . .	H. D
Camp, W. O. . .	Dickeyville . . .	E. 10	Scales, T. D. . . .	Boonville . . .	R. D
Daily, T. G. . .	Boonville . . .	R. 10	Saules, Harvey . . .	Boonville . . .	R. D
DeForest, D. A. . .	Boonville . . .	R. D	Shawel, M. . . .	Boonville . . .	R. D
Howard, T. M. . .	Boonville . . .	R. D	Smith, Thomas . . .	Canal . . .	R. D
Hewins, W. A. . .	Chandler . . .	R. D	Slaughter, W. W. .	Newburg . . .	R. D
Hedden, G. J. . .	Selvin . . .	R. 10	Tyner, S. L. . . .	Chandler . . .	R. D
Hammel, . . .	Lynn . . .	R. D	Tillman, J. R. . . .	Newburg . . .	R. D
Hoover, P. M. . .	Boonville . . .	H. D	Thompson, P. S. . .	Newburg . . .	R. D
Hart, E. H. . .	Folsomville . . .	R. 3	TUCKER, D. W. . .	Boonville . . .	R. D
Jones, T. B. . .	Lynnville . . .	R. D	Wilson, Wesley . . .	Yanketown . . .	R. D
Keegan, C. J. . .	Canal . . .	R. D	Watson, W. D. . . .	Tennyson . . .	R. D
Keifer, Charles . .	Newburg . . .	R. 10	Walden, W. M. . . .	Newburg . . .	H. D
Lake, George . . .	Newburg . . .	R. D	West, E. A. . . .	Folsomville . . .	R. 10
Musgrave, S. D. . .	Newburg . . .	H. D	Zimmerman, J. . .	Lynnville . . .	R. D

Regular, 35; Eclectic, 4; Homeopathic, 5.

Washington County.

Name.	Post Office.	School.	Name.	Post Office.	School.
Applegate, George .	South Boston .	R. 10	Layman, J. H. .	Chestnut Hill .	R. 10
Baker, T. H. B. .	Pekin .	R. D	MURPHEY, C. W. .	Salem .	R. D
Barnett, J. T. .	Hardinsburg .	R. D	McPheeters, J. S. .	Hardinsburg .	R. D
Bright, W. H. .	Martinsburgh .	R. D	Martin, W. H. .	Campbellsburg .	R. 10
Bare, J. R. .	Salem .	R. D	Martin, R. W. .	Salem .	R. D
Bradshaw, A. E. .	Halo .	R. D	Mills, Richard .	Salttilloville .	R. 10
Duff, S. W. .	Salem .	R. D	Neyman, E. W. C. .	Salttilloville .	R. 10
Doolittle, J. H. .	Campbellsburg .	R. D	Neyman, H. P. .	Salttilloville .	R. 10
Deweese, G. W. .	Fredricksburg .	R. 10	Oatley, J. H. .	New Philad'phia .	R. 10
Ferree, Isaac .	Livonia .	R. D	Overman, E. T. .	Salem .	P.-M. D
Hall, I. G. .	Campbell's P. M. D		Overman, C. L. M. .	Salem .	P.-M. D
Henderson, H. D. .	Salem .	R. D	Paynter, C. W. .	Salem .	R. D
Hoggatt, M. L. .	Salem .	E. 10	Paynter, Horace .	Salem .	R. D
Hobbs, H. C. .	Salem .	E. D	Purkhiser, W. J. .	Salem .	R. D
Herron, T. W. .	Lesterville .	R. 10	Rathburn, Chas. .	Kossouth .	R. 10
Hancock, G. S. .	Campbellsburg .	R. D	Roberts, S. A. .	Fredricksburg .	R. D
Howard, S. B. .	Kossouth .	R. 3	Schoonover, W. S. .	Hardinsburg .	R. 10
Hudson, L. H. .	Little York .	E. D	Tucker, Thos. M. .	Salem .	R. D
Isham, J. H. .	Little York .	R. D	Voyles, V. A. .	Livonia .	R. 3
Lockhart, Thomas .	Campbellsburg .	E. 3	Wier, A. G. .	Kossouth .	R. D

Regular, 33; Eclectic, 4; Physio-Medical, 3.

Wayne County.

Allen, John B. .	Hagerstown .	R. D	Kersey, Chas. A. .	Richmond .	R. D
Beam, Alfred H. .	Will'mb'rg. P.-M. D		Kelsey, L. S. .	Richmond .	R. D
Broadwell, Wilmer .	Cambridge City. R. D		Lortimer, J. H. D. .	Centreville .	R. D
Boyd, H. B. .	Cambridge City. R. D		Lukens, John H. .	Richmond .	R. D
Bond, Chas. S. .	Richmond .	R. D	Lowe, G. N. .	Hagerstown. N. R. 10	
Ballenger, W. L. .	Richmond .	R. D	Mauk, J. R. .	Cambridge City. R. D	
Benham, H. R. .	Richmond .	E. D	Modlin, L. H. .	Nettle Creek .	R. D
Ballard, N. H. .	Richmond .	R. D	McTaggart, C. R. .	Dublin .	E. D
Bappart, A. .	Richmond .	R. 10	McClelland, J. S. .	Dublin .	E. D
Bulla, J. M. .	Richmond .	H. D	Mann, L. S. .	Richmond .	H. D
Buntin, E. A. .	Greensfork .	R. D	Mendenhall, W. O. .	Richmond .	R. D
Baldwin .	Dalton .	N. R. 3	Morrow, Sarah J. .	Richmond .	R. 3
Colburn, C. P. .	Richmond .	R. D	McDivitt, E. G. .	Richmond .	H. D
Canaday, N. F. .	Hagerstown .	H. D	McSimpson, John .	Richmond .	E. D
Clark, Edward D. .	Economy .	R. D	Newlin, E. S. .	Dublin .	R. D
Clark, J. B. .	Economy .	R. D	Neff, W. W. .	Greenfork .	R. 3
Carpenter, D. L. .	C'mb'dge City. N. R. 10		Pittman, Henderson .	Hagerstown .	R. 3
Dempsey, Wm. S. .	Richmond .	R. D	Quick, J. C. .	Hagerstown. P.-M. D	
Davis, T. H. .	Richmond .	H. D	Rife, J. J. .	Boston .	R. D
Emmons, Joshua. .	Richmond .	H. D	Rusk, Anna P. .	Richmond .	P.-M. D
Egolf, H. M. .	Fountain City .	R. D	Robbins, G. W. .	Richmond .	R. D
Gifford, S. A. .	Richmond .	R. D	Reynolds, Margaret J. .	Richmond .	H. D
Grant, Geo. H. .	Richmond .	R. D	Study, J. N. .	Cambridge City. R. D	
Grosvenor, E. B. .	Richmond .	H. D	Sweeney, I. F. .	Milton .	R. D
Gundry, L. H. .	Richmond .	R. D	Summers, J. B. .	Milton .	R. D
Gabel, Harrison .	Centreville .	R. D	St. Clair, J. W. .	Milton .	R. 10
Griffin, W. T. .	Whitewater .	E. D	Swallow, J. E. .	Abington .	R. D
Graham, W. B. .	Whitewater .	E. 3	Schiltneck, V. G. .	Hagerstown .	R. D
Gentle, L. M. .	E. Germant'n .	R. D	Smith, S. E. .	Richmond .	R. D
Hale, Thomas T. .	Dublin .	E. D	Tillson, Hosea .	Centreville .	R. 10
Helm, Wm. M. .	Williamsburg .	E. D	Taylor, L. B. .	Dublin .	R. 10
HIBBERD, JAS. F. .	Richmond .	R. D	Thurston, E. H. .	Hagerstown. P.-M. 10	
Harold, C. N. .	Richmond .	P.-M. D	Taylor, T. W. .	Fountain City .	R. D
Harold, E. S. .	Richmond .	P.-M. D	Taylor, Jas. E. .	Richmond .	R. D
Hobbs, M. W. .	Richmond .	R. D	Teague, I. C. .	Richmond .	H. 10
Haynes, M. H. .	Richmond .	R. D	Thurston, J. M. .	Richmond .	P.-M. D
Hopkins, Robt. R. .	Richmond .	R. D	Watts, E. K. .	Richmond .	R. D
Harter, Wm. W. .	Hagerstown. P.-M. D		Wampler, J. M. .	Richmond .	R. 3
Intze, Joseph .	Richmond .	R. D	Weist, J. R. .	Richmond .	R. D
Johnson, Levi C. .	Richmond .	R. D	Walls, J. A. .	Richmond .	P.-M. D
Johnson, Rhoda B. .	Richmond .	R. D	Weist, H. H. .	Richmond .	R. D
Johnston, M. F. .	Richmond .	R. D	White, F. W. .	Richmond .	P.-M. D
Jacks, Jas. R. .	Boston .	E. D	Warren, D. S. .	Richmond .	E. D
King, Wm. F. .	Centreville .	R. D	Wright, Jacob E. .	Cambridge City. H. D	
Kersey, Silas H. .	Centreville .	R. D	Witmer, B. M. .	Milton .	E. 10
Kinsey, J. H. .	Richmond .	P.-M. D	Wray, Hardy .	Dublin .	E. 10
King, Jas. E. .	Richmond .	R. D	Zimmerman, W. W. .	Richmond .	H. D

Regular, 57; Eclectic, 12; Homeopathic, 11; Physio-Medical, 11; not reported, 3.

Wells County.

<i>Name.</i>	<i>Post Office.</i>	<i>School.</i>	<i>Name.</i>	<i>Post Office.</i>	<i>School.</i>
Cassel, Geo. W	Keystone	R. 10	Metts, J. I	Ossian	R. 10
COOK, L. H	Blufftown	R. D	Metts, J. A	Ossian	R. D
Dickey, E	Murray	R. D	Morris, T	Mt. Zion	R. 10
Doster, H. L	Poneto	R. D	Murray, L. E	Zanesville	R. D
Davenport, E. P	Craigville	R. 10	Meckey, H. P	Poneto	R. D
English, C. H	Uniondale	R. D	Neff, I. M	Mt. Zion	R. D
Fitzpatrick, J. D	Vera Cruz	R. 10	Newman, M. A	Ossian	R. D
Fulton, Geo	Bluffton	R. D	Noble, H. Z	Zanesville	R. 10
Fulton, J. C	Bluffton	R. 10	Ransom, Jno. A	Barber's Mills	R. D
Goodwin, S. G	Nottingham	R. 10	Renear, E	Liberty Center	R. D
Garrett, F. W	Liberty Center	R. D	Spaulding, L. A	Bluffton	R. D
Horton, T. H	Bluffton	R. 10	Springstead, A. E	Bluffton	H. D
Horton, E. R	Bluffton	E. D	Waldron,	Nottingham	R. 10
Hatfield, I. N	Bluffton	R. D	Weer, H. H	Blufftown	E. D
Mason, L	Bluffton	R. D	Wilson, C	Domestic	R. D

Regular, 27; Eclectic, 2; Homeopathic, 1.

White County.

Ballow, A. B	Burnetts Creek	R. D	MCCANN, J. D	Monticello	E. D
Baugh, W. J	Chalmers	R. D	Nolan, J. W	Buffalo	R. D
Carr, J. L	Monon	R. D	ROBISON, F. B	Monticello	E. D
Clayton, Geo. R	Monon	R. D	Reed, J. H	Idaville	R. D
Cooper, W. B	Monticello	R. D	Small, H. E	Walcott	E. D
Cowger, S. R	Monticello	E. D	Sluyter, S. D	Chalmers	E. 10
Didlake, M. T	Monticello	R. D	Sampson, W. H	Brookston	E. 10
Delzell, R. M	Reynolds	R. 10	Smith, J. T	Brookston	R. D
Dickson, Henry J	Chalmers	R. D	Scott, Caleb	Monticello	P.-M. 10
Henry, L. W	Burnetts Creek	R. 10	Spencer, Wm	Monticello	R. D
Jones, A. B	Burnetts Creek	R. D	Trowbridge, W. V	Burnetts Creek	R. D
Kelley, D. M	Brookston	R. D	Welta, Isadore	Monticello	H. 10
McAllister, J. W	Idaville	R. 10	Walker, W. O	Walcott	R. D
Medarius, John	Brookston	R. 10			

Regular, 19; Homeopathic, 1; Eclectic, 6; Physio-Medical, 1.

Whitley County.

Amerman, S. D	Columbia City	H. D	Merriman, Elijah	South Whitley	R. D
Criswell, John F	Cherubusco	R. D	Richards, John	Land	E. D
Coyle, Wm. Henry	Hecla	R. D	Schuman, Oliver V	Columbia City	R. D
Eberhardt, Eli L	South Whitley	R. D	Scott, J. Wm. C	Hecla	R. D
Greiser, Frederick G	Collins	R. D	Souder, Christopher	Larwill	R. D
Gear, John W	Coesse	R. D	Squires, James W	Cherubusco	R. D
Hontz, Wm. C	Columbia City	R. D	Thompson, Geo. E	Hecla	R. D
Ireland, Martin	Columbia City	R. D	Williams, Chas. S	Columbia City	R. 10
Kirkpatrick, Daniel	Larwill	R. D	White, Samuel R	Land	R. D
Kithcart, Nathan J	Columbia City	R. D	Weber, William	Columbia City	R. D
LaFollette, Thos. J	South Whitley	R. D	Webster, Monroe W	South Whitley	R. D
Linville, David S	Columbia City	R. D	WEBSTER, D. E	Columbia City	R. D
Magers, Francis M	Cherubusco	R. D	Morrison, Thos. R	Cherubusco	R. D

Regular, 24; Eclectic, 1; Homeopathic, 1.

RECAPITULATION.

Regulars	3,238
Eclectics	448
Homeopathics	216
Physio-Medicals	181
Not Reported	109
Total	4,196

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Name.	Post Office.	School.	Name.	Post Office.	School.
McKilip, J. H.	Snyder	R. 10	Smith, Mary J.	Greensboro	P.-M. D
McSherry, J. L.	Sulphur Spr'gs.	R. D	Smith, R. A.	Greensboro	P.-M. D
Mendenhall, E. T.	New Castle	H. D	Stafford, Daniel	New Castle	P.-M. D
Modlin, Leander H.	Cadiz	R. D	Stafford, J. A.	Millville	P.-M. D
Moore, Lorella	New Castle	H. D	Stafford, Horace	Straughns S.	P.-M. D
Newby, Timiri	Greensboro	D. 10	Stafford, Charles A.	New Castle	P.-M. D
Newby, Nathan	Spiceland	P.-M. D	Stanley, J. C.	Rogersville	R. D
Norviel, R. D.	Mt. Summit	E. D	Thomburgh, F. L.	Middletown	R. D
Newhouse, John T.	Sulphur Spr.	P.-M. D	Thompson, J. F.	New Castle	H. D
Oalden, W. C.	Kennard	R. 10	Waters, P. C.	Middletown	R. D
Painter, B. W.	Middletown	P.-M. D	Wayman, J. C.	New Castle	P.-M. D
Pendleton, C. B.	Mech'esburg	P.-M. D	Weaver, John	Knightstown	R. 10
Pickering, S.	New Lisbon	R. D	Weeks, Elizabeth J.	M'ch'n'sb'rg	P.-M. D
Post, B. O.	Sulphur Spr'gs.	R. D	Welsh, J. H.	Middletown	R. D
Rhea, John	New Castle	R. D	Williams, H. D.	New Castle	P.-M. D
Rodecap, G. W.	Middletown	H. D	White, J. A.	Dunreith	R. D
Rogers, S. G.	Moorland	E. D	Winston, L. V.	Knightstown	R. D
Rogers, LeRoy	Kennard	E. D	Yockey, D. H.	Blountville	R. D
Reading, Jacob	New Castle	P.-M. D			

Regular, 47; Eclectic, 4; Homeopathic, 5; Physio-Medical, 16; not reported, 1.

Howard County.

Armstrong, E. A.	Kokomo	R. D	Murray, S. T.	Greentown	R. 10
Bates, A. J.	Kokomo	R. D	Moore, J. B.	Kokomo	R. D
Berst, J. H.	Kokomo	R. D	McClurg, Wm. H.	Kokomo	E. D
Bagwell, Lewis A.	Kokomo	R. D	Newlin, S.	New London	R. D
Covatt, A. A.	Kokomo	R. D	Oiler, L.	Kokomo	R. D
Conner, I.	Pulox	E. 3	Puckett, J. L.	Kokomo	R. D
Cooper, W.	Kokomo	E. D	Rice, E. C.	Oakford	E. D
Cooper, I. A.	Kokomo	E. D	Ross, J. H.	Rokomo	R. D
Freeman, A. C.	Kokomo	R. 10	Ross, R. H.	Kokomo	R. D
Garr, J. O.	Kokomo	R. D	SMITH, R. H.	Kokomo	R. D
Gifford, T. V.	Kokomo	N. R. 10	Scott, W.	Kokomo	R. D
Hul, W. H.	Center	R. D	Scott, G. D.	Greentown	R. D
Hulburt, D.	Kokomo	N. R. 3	Sawyer, E. W.	Kokomo	H. D
Johnson, I. C.	Kokomo	R. D	Shirley, D. J.	New London	R. 10
Kern, T.	Kokomo	R. D	Thorne, J. C. F.	Kokomo	R. D
Kern, L.	Kokomo	R. D	Wright, J. W.	Kokomo	R. D
Kirkpatrick, J. B.	Kokomo	R. D	Wilson, R. Q.	Kokomo	R. D
Kemp, G. W.	Russiaville	R. 3	Wert, J. T.	Kokomo	R. D
Moulder, J. M.	Kokomo	R. D	Ware, C. W.	West Liberty	R. D
Miller, H. C.	Ridgeway	R. D	Worley, C. A.	Kappa	R. 10
Miller, L. C.	Alto	R. D			

Regular, 33; Eclectic, 5; Homeopathic, 1; not reported, 2.

Huntington County.

Beal, George	Huntington	R. D	Kuntz, Sylvester	Roanoke	R. D
Bonifield, W. D.	Warren	R. D	Kilander, Wm. J.	Markle	R. D
Burns, A. M.	Bippus	R. D	Lyons, Ira E.	Huntington	R. D
Beaver, N. M.	Huntington	R. D	Lyons, Wm. B.	Huntington	R. D
Bucher, J. C.	Andrews	R. D	Laymen, Daniel S.	Huntington	R. D
Crandle, Thos.	Majenica	E. D	Laymen, Emery H.	Huntington	R. D
Cory, H. W.	Huntington	H. D	Mitchell, Saml. P.	Mt. Etna	R. D
Carson, Wm. F.	Roanoke	R. D	Mackey, James L.	Warren	H. D
Chafee, Wm. C.	Huntington	R. D	McColgan, James	Bippus	R. D
Chenowith, Geo. F.	Mt. Etna	R. D	McColgan, Robert	Bippus	R. D
Derbyshire, S. J.	Andrews	R. D	McLin, Geo. H.	Huntington	R. D
Derbyshire, Luella	Andrews	R. D	Palmer, E. W.	Warren	R. D
Edgington, B. F.	Plum Tree	P.-M. D	Scott, N. W.	Huntington	R. D
Fry, Chas. W.	Braeken	R. D	Shaffer, A. H.	Huntington	R. D
Fisher, E. S.	Markle	R. D	Severance, LaGrange	Huntington	R. 10
Fish, W. S.	Hoboken	R. D	Searls, J. D.	Huntington	R. 10
Frazier, E. M.	Warren	R. D	Williams, O. B.	Andrews	R. D
Good, Chas. H.	Warren	R. D	Wallace, Leroy S.	Hoboken	R. D
Grayston, F. S. C.	Huntington	R. D	Wright, Chas. L.	Huntington	R. D
Grayston, B. H. B.	Huntington	R. D	WRIGHT, ERVIN	Huntington	R. D
Grayston, Chas. E.	Huntington	R. D	Wall, Francis M.	Warren	R. D
Gemmill, Henry C.	Markle	R. D	Yingling, D.	Huntington	E. D
Howland, M.	Majenica	R. D	Young, Edward L.	Pt'snt Plain	N. R. 10
Kemp, Jos. W.	Roanoke	R. D			

Regular, 41; Eclectic, 2; Homeopathic, 2; Physio-Medical, 1; not reported, 1.